NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

02/24/2021

Harnett COUNTY NORTH CAROLINA

BETCO

MY STORAGE UNIT

LILLINGTON, NORTH CAROLINA

SUBMITTED TO :

MY STORAGE UNIT, LLC.
ATTN: JOE GARDNER
116 TYSINGER ROAD
LILLINGTON, NORTH CAROLINA 27546

PHONE: (910) 891-9600

WIND LOAD DESIGN DATA:

- ULTIMATE DESIGN WIND SPEED (V_{ULT}): 110 MPH
- NOMINAL DESIGN WIND SPEED (V_{ASD}): 86 MPH
- RISK CATEGORY: I
- WIND EXPOSURE: B
- INTERNAL PRESSURE COEFFICIENT: ± 0.18

SNOW LOAD DESIGN DATA:

- GROUND SNOW LOAD (Pg): 15 PSF
- FLAT-ROOF SNOW LOAD (Pf): 12.1 PSF
- SNOW EXPOSURE FACTOR (Ce): 1.2
- SNOW LOAD IMPORTANCE FACTOR (I): 0.8
- THERMAL FACTOR (Ct): 1.2

EARTHQUAKE LOAD DESIGN DATA:

- RISK CATEGORY: I
- SEISMIC IMPORTANCE FACTOR (I): 1.0
- SEISMIC DESIGN CATEGORY: C
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE (ASCE 7-10 SECTION 12.8)
- BASIC SEISMIC-FORCE-RESISTING SYSTEM: LIGHT FRAMED WALLS WITH STEEL SHEAR PANELS
- SITE CLASS: D
- DESIGN BASE SHEAR:
  BUILDING "1": 0.700^{K}
  BUILDING "2": 0.364^{K}
- RESPONSE MODIFICATION FACTOR (R): 7.0
- SEISMIC RESPONSE COEFFICIENT (C_S): 0.028
- MAPPED SPECTRAL RESPONSE ACCELERATION
  (S_S): 18.3% G
  (S_1): 8.6% G
- SPECTRAL RESPONSE COEFFICIENTS
  (S_{DS}): 19.5% G
  (S_{D1}): 13.8% G

BUILDING DATA :

BUILDING DESCRIPTION :

SINGLE STORY METAL BUILDINGS BOLTED TO CONCRETE SLAB FOUNDATIONS.

BUILDING SIZE :

BUILDING "1"	20' x 250'	=	5,000 sq. ft.	8'-6" EAVE HEIGHT
BUILDING "2"	20' x 130'	=	2,600 sq. ft.	8'-6" EAVE HEIGHT
	TOTAL	=	7,600 sq. ft.	

PARKING DATA :

SEE SITE PLAN BY OTHERS

BUILDING CODE :

THE 2018 NORTH CAROLINA BUILDING CODE

DESIGN CRITERIA :

THESE BUILDINGS HAVE BEEN DESIGNED TO CONFORM TO THE STRUCTURAL REQUIREMENTS OF THE 2018 NORTH CAROLINA BUILDING CODE, WITH CURRENT REVISIONS.

THESE BUILDINGS HAVE BEEN DESIGNED FOR THE FOLLOWING LIVE LOADINGS IN ADDITION TO THE DEAD LOADINGS :

ROOF LIVE LOADING :	20 psf
FLOOR LIVE LOADING:	125 psf
USE GROUP:	S-1
TYPE OF CONSTRUCTION:	II-B

IT IS THE RESPONSIBILITY OF THE BUYER/OWNER TO VERIFY THE FIREWALL, LIVE LOAD AND WIND LOAD REQUIREMENTS WITH THE LOCAL CODE AUTHORITY.

PROJECT NUMBER :

NC20251

NOTE: DETAIL LABELS CONTAINED WITHIN THIS SET OF PLANS MAY REFERENCE THE ERECTION DRAWINGS MARKED IN THIS SCHEDULE.
EXAMPLE: DETAIL A/900 REFERS TO DETAIL "A" LOCATED ON ERC900X.

ERECTION DRAWINGS

ERC010X		ERC200X		ERC420X		ERC619X		ERC752X			
ERC016X	X	ERC201X	X	ERC500X		ERC620X		ERC753X			
ERC100X	X	ERC202X	X	ERC505X	X	ERC621X		ERC754X			
ERC105X	X	ERC203X	X	ERC506X	X	ERC622X		ERC800X			
ERC106X		ERC204X		ERC515X		ERC623X		ERC900X			
ERC110X	X	ERC206X		ERC600X	X	ERC624X		ERC901X			
ERC112X		ERC207X		ERC601X	X	ERC625X		ERC902X			
ERC115X		ERC208X		ERC602X		ERC626X		ERC903X			
ERC120X		ERC209X		ERC603X		ERC630X	X	ERC904X			
ERC130X		ERC250X		ERC604X		ERC631X	X	ERC905X			
ERC150X		ERC250XFHP		ERC605X		ERC652X		ERC907X			
ERC151X		ERC251X		ERC606X		ERC700X	X	ERC908X			
ERC152X		ERC251XFHP		ERC607X		ERC710X		ERC910X			
ERC153X		ERC252X		ERC608X		ERC711X	X	ERC911X			
ERC154X		ERC251XFHP		ERC609X		ERC712X	X	ERC912X			
ERC155X		ERC253X		ERC610X	X	ERC713X	X	ERC913X			
ERC175X		ERC254X		ERC611X		ERC720X		ERC914X			
ERC176X		ERC255X		ERC612X		ERC725X		ERC915X			
ERC177X		ERC256X		ERC613X		ERC730X		ERC916X			
ERC178X		ERC257X		ERC614X		ERC731X		ERC917X			
ERC179X		ERC258X		ERC615X		ERC731XFHP		ERC918X			
ERC180X		ERC302X		ERC616X		ERC732X		ERC919X			
ERC181X		ERC302X(INS)		ERC617X		ERC732XFHP					
ERC182X		ERC410XFL	X	ERC618X		ERC750X					
ERC183X		ERC411X		ERC618XALT		ERC751X					

SCHEDULE OF DRAWINGS

DRAWING NO.	DESCRIPTION
CS1	COVER SHEET
CS2	BUILDING NOTES
CS3	APPENDIX B
S1	ELEVATIONS & NOTES
S2	FLOOR PLAN, CROSS SECTION, & NOTES
S3	FLOOR PLAN, DETAILS & NOTES
F1	FOUNDATION PLAN, DETAILS & NOTES
F2	FOUNDATION PLAN, DETAILS & NOTES

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027355 REGINALD SELF

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

GENERAL NOTES:

1. CONCRETE FOUNDATIONS AND FLOOR SLAB ARE TO BE SUPPLIED AND INSTALLED BY OTHERS . WEDGE ANCHORS FOR INTERIOR AND EXTERIOR FOOTINGS SUPPLIED AND INSTALLED BY BETCO.
2. EXTERIOR OPENINGS, NOT DESIGNATED AS DOOR LOCATIONS, TO BE COMPLETED USING EXTERIOR WALL PANELS FURNISHED BY BETCO.
3. USE DOW 791 SILICONE CAULK AND 1/2" WIDE BUTYL RUBBER TAPE SEALANT FOR ROOF INSTALLATION. USE DOW 799 SILICONE CAULK AT DOWNSPOUT TO GUTTER JOINT.
4. INTERIOR PARTITIONS PERPENDICULAR TO ROOF BEAM(S) MUST BE COMPLETED BEFORE ROOF PANELS ARE INSTALLED. USE PARTITION FRAMING TO PLUMB AND SQUARE COLUMNS AND HEADER SECTIONS. CHECK BUILDING WIDTH AT TOP OF COLUMNS PRIOR TO ROOF INSTALLATION.
5. THOROUGHLY SWEEP ROOF PANELS FOLLOWING INSTALLATION TO REMOVE METAL DRILLINGS.
6. THIS DESIGN IS BASED ON USING ONLY METAL BUILDING COMPONENTS WHICH ARE PROPRIETARY TO BETCO. FURTHER, THE PROFESSIONAL ENGINEER'S SEAL IS INVALID UNLESS ONLY BETCO METAL BUILDING COMPONENTS ARE UTILIZED.
7. METAL STUDS (IF APPLICABLE) MAY REQUIRE FIELD CUTTING DEPENDING UPON THE EAVE HEIGHT OF THE STRUCTURE.
8. UNIT SIZES SHOWN ARE NOMINAL. ACTUAL CLEAR DIMENSIONS INSIDE UNITS MAY VARY ACCORDING TO FINAL DESIGN OF COMPONENTS.
9. THESE DRAWINGS ARE THE PROPERTY OF BETCO, INC. AND MAY NOT BE USED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN CONSENT OF BETCO, INC.
10. THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND OTHER CONTRACT DOCUMENTS.
11. THE GENERAL CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL SLEEVES, PADS, DEPRESSIONS, OPENINGS, ETC. AS REQUIRED BY THE VARIOUS TRADES.

FOUNDATIONS:

1. THE FOUNDATION DESIGN IS BASED ON A PRESUMED ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF. NOTIFY ENGINEER IF SITE CONDITIONS DIFFER FROM DESIGN ASSUMPTIONS SPECIFIED.
2. IF FOOTING ELEVATIONS SHOWN OCCUR IN A DISTURBED, UNSTABLE OR UNSUITABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.
3. TOP OF FOOTING ELEVATIONS ARE SHOWN ON THE DRAWINGS ARE TO BE DETERMINED BY THE CONTRACTOR IN THE FIELD IN ACCORDANCE WITH THE GUIDE LINES SET FORTH IN THE DRAWINGS AND SPECIFICATIONS.
4. FILL MATERIAL SHALL BE FREE OF ROOTS, WOOD OR OTHER ORGANIC MATERIAL AND COMPLY WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT. MATERIALS USED FOR FILL UNDER FOOTINGS AND WITHIN BUILDING LIMITS SHALL BE TESTED AND APPROVED FOR THE USE BY THE GEOTECHNICAL TESTING AGENCY.
5. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE STRUCTURAL ENGINEERS APPROVAL.
6. FOUNDATION WALLS RETAINING EARTH SHALL BE BRACED AGAINST BACK FILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE.
7. FOUNDATION WALLS OR GRADE BEAMS HAVING EARTH PLACED ON EACH SIDE SHALL HAVE BOTH FILLED SIMULTANEOUSLY TO MAINTAIN A COMMON ELEVATION.
8. DO NOT PLACE CONCRETE IN ANY EXCAVATION CONTAINING ICE, FROST, FROZEN GROUND OR FREE WATER. FROZEN SUB GRADES MUST BE THAWED AND RECOMPACTED PRIOR TO PLACING CONCRETE.
9. EARTH FORMED FOOTINGS SHALL CONFORM TO THE SHAPE, LINES, AND DIMENSIONS AS SHOWN ON THE FOUNDATION PLAN. ALL WATER SHALL BE REMOVED BEFORE DEPOSITING CONCRETE.
10. BEFORE PLACING CONCRETE, ALL EMBEDDED ITEMS SHALL BE PROPERLY LOCATED, ACCURATELY POSITIONED, AND MAINTAINED SECURELY IN PLACE.
11. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION, AND ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
12. PERIMETER FOUNDATION MUST NOT EXCEED 1/4" ELEVATION VARIATION ALONG ANY 50' DISTANCE OF BUILDING LENGTH.
13. PERIMETER FOUNDATION TO EXTEND BELOW FROST LINE. VERIFY REQUIRED DEPTH WITH LOCAL BUILDING OFFICIALS PRIOR TO PROCEEDING WITH FOUNDATION WORK AND NOTIFY ENGINEER OF DEVIATION FROM DRAWING.
14. THE AMERICAN CONCRETE INSTITUTE DOES NOT RECOGNIZE FIBERMESH AS A SUBSTITUTE FOR WIRE MESH REINFORCED CONCRETE WHEN SUBJECTED TO TENSILE STRESS
15. SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'-0" INTERVALS . . . OFFSET CUTS 2'-6" MINIMUM FROM INTERIOR COLUMN LINES.

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE NEW BILLET STEEL, DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60 (Fy-60,000 PSI).
2. FIELD BENDING OF CONCRETE REINFORCING STEEL IS NOT PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
3. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI SP-66 'ACI DETAILING MANUAL-1994' AND THE 'CRSI MANUAL OF STANDARD PRACTICE', LATEST EDITION.
4. PLACE REINFORCEMENT AND TIES IN GROUT SPACES PRIOR TO GROUTING.
5. CONCRETE COVERAGE OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE UNLESS NOTED OTHERWISE.

A.	FOOTING AND GRADE BEAMS IN GROUND CONTACT	3 INCHES
B.	BEAMS AND COLUMNS	2 INCHES
C.	SLABS, WALLS, AND JOISTS	3/4 INCH - NOT EXPOSED TO EARTH, LIQUID OR WEATHER
D.	SLABS ON GRADE	2 INCHES FROM TOP
E.	FORMED SURFACES IN GROUND CONTACT	2 INCHES

6. DEVELOPMENT LENGTHS AND LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318-14 CHAPTER 12 AND AS INDICATED ON THE DRAWINGS. WHERE SPLICES ARE NOT CALLED OUT ON THE DRAWINGS, USE CLASS "B", BUT IN NO CASE SHALL ANY SPLICE BE LESS THAN 12 INCHES. FOR BARS AS INDICATED BELOW THE BASIC DEVELOPMENT LENGTH SHALL BE MULTIPLIED BY THE FACTORS AS INDICATED FOR TENSION OR COMPRESSION AND THEN ROUNDED UP TO THE NEAREST WHOLE INCH. THE FACTORS INDICATED BELOW ARE CUMULATIVE FOR EACH OF THE CONDITIONS APPLICABLE.
7. WELDED WIRE MAT/FABRIC SHALL CONFORM TO ASTM A184 AND A185 RESPECTIVELY AND BE LAPPED 1'-0" AT ALL SPLICES.
8. ALL REINFORCING TERMINATING AT THE TOPS OF COLUMNS AND PILASTERS SHALL BE HOOKED UNLESS OTHERWISE NOTED.
9. SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING, AND PLACEMENT OF CONCRETE REINFORCEMENT. COMPLY WITH ACI DETAILING MANUAL (SP-66) SHOWING BAR SCHEDULES, STIRRUP SPACING, DIAGRAMS OF BENT BARS, ARRANGEMENT OF CONCRETE REINFORCEMENT. INCLUDE SPECIAL REINFORCEMENT REQUIRED AT OPENINGS THROUGH CONCRETE STRUCTURES. INCLUDE ALL ACCESSORIES SPECIFIED/ REQUIRED TO SUPPORT REINFORCING.
10. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMISSION. DRAWINGS SHALL BEAR THE CONTRACTOR'S APPROVAL STAMP ACCEPTING RESPONSIBILITY FOR DIMENSIONS, QUANTITIES AND COORDINATION WITH THE OTHER TRADES.
11. CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER AND TESTING AGENCY A MINIMUM OF 48 HOURS PRIOR TO ALL CONCRETE POURS IN ORDER TO PERMIT REINFORCING STEEL REVIEW AS REQUIRED BY THE INSPECTION SCHEDULE.
12. REINFORCING IN ALL CONTINUOUS STRIP FOOTINGS SHALL HAVE CORNER BARS OR DOWELS. PROVIDE AT ALL CORNERS AND INTERSECTIONS.

CONSTRUCTION AND SAFETY:

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT SAME AGAINST INJURY, DAMAGE OR LOSS.
3. MEANS AND METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIALS ARE SOLELY THE CONTRACTORS RESPONSIBILITY.
4. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED IN CONJUNCTION WITH THE DRAWINGS OF OTHER CONSULTANTS AND TRADES. THE CONTRACTOR SHALL COORDINATE THE VARIOUS REQUIREMENTS.
5. NO OPENINGS NOR ANY CHANGES IN SIZE, DIMENSION OR LOCATION SHALL BE MADE IN ANY STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. SUCH LOADS SHALL NOT EXCEED THE CAPACITY OF THE STRUCTURE AT ANY TIME.
7. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION, AND ANY TEMPORARY BRACING OR SUPPORT REQUIRED TO ACCOMMODATE THE CONTRACTORS MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL INFORM THE STRUCTURAL ENGINEER, CLEARLY AND EXPLICITLY IN WRITING, OF ANY DEVIATION OR SUBSTITUTION OF REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR IS NOT RELIEVED OF ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS BY VIRTUE OF THE STRUCTURAL ENGINEERS REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC. UNLESS THE CONTRACTOR HAS CLEARLY AND EXPLICITLY INFORMED THE STRUCTURAL ENGINEER IN WRITING OF ANY DEVIATIONS OR SUBSTITUTIONS AT TIME OF SUBMISSION, AND THE STRUCTURAL ENGINEER HAS GIVEN WRITTEN APPROVAL FOR THE SPECIFIC DEVIATIONS OR SUBSTITUTIONS.
9. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES IN THE DRAWINGS OR SPECIFICATIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER. CORRECTIONS OR WRITTEN INTERPRETATIONS SHALL BE ISSUED BEFORE AFFECTED WORK MAY PROCEED.
10. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH NEW WORK IN AREAS AFFECTED BY THE EXISTING CONDITIONS. STRUCTURAL ENGINEER SHALL BE INFORMED IN WRITING OF CONFLICTS BETWEEN EXISTING AND PROPOSED NEW CONSTRUCTION.
11. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS. INCONSISTENCIES ON THE STRUCTURAL DRAWINGS OR BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER CONTRACT, SHOP, FABRICATION, OR OTHER DRAWINGS OR INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH AFFECTED WORK.
12. DO NOT SCALE THESE DRAWINGS, USE THE DIMENSIONS SHOWN.

CONCRETE:

1. SUBMIT WRITTEN REPORTS OF EACH PROPOSED CONCRETE DESIGN MIX NOT LESS THAN 15 DAYS PRIOR TO THE START OF WORK. DESIGN MIXES PREPARED MORE THAN TWELVE (12) MONTHS PRIOR TO THE DATE THE SUBMITTAL ARE NOT PERMITTED.
2. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-14).
3. ALL CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING AGENCY FOR STANDARD PARAMETERS (SLUMP, COMPRESSIVE STRENGTH, ETC.) TWO COPIES OF ALL REPORTS SHALL BE SUBMITTED TO THE ENGINEER/ ARCHITECT.
4. ALL NORMAL WEIGHT CONCRETE SHALL HAVE ASTM C-33 AGGREGATE WITH MAXIMUM UNIT WEIGHT OF 150 PCF. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS, MINIMUM FOR FOUNDATIONS AND SLABS ON GRADE. ALL CONCRETE FOR FLOOR SLABS ON METAL DECK FORMS SHALL BE NORMAL WEIGHT CONCRETE WITH COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
5. MIX DESIGNS, INCLUDING WATER CEMENT RATIOS AND SLUMPS, SHALL BE PREPARED IN ACCORDANCE WITH MOST CURRENT ACI 301 CHAPTER 3, EXCEPT WHERE NOTED OTHERWISE IN THE PROJECT SPECIFICATIONS. CEMENT SHALL CONFORM TO ASTM C 150 TYPE I OR AT CONTRACTOR'S OPTION, ASTM C 595 TYPE IP WHERE FLY ASH IS PERMITTED. NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33 AGGREGATE WITH MAXIMUM UNIT WEIGHT OF 150 PCF AND LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C 330 AGGREGATE. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED IN ANY CONCRETE.

   AGGREGATE SIZES SHALL BE:
   - I. FORMED CONCRETE ELEMENTS, U.N.O. _____ #67 STONE (3/4" MAX)
   - II. GRADE SLABS AND EARTH FORMED ELEMENTS. _____ #57 STONE (1" MAX)
   - III. COARSE MASONRY GROUT REQUIRED _____ #67 STONE (3/4" MAX)
   - IV. FINE MASONRY GROUT REQUIRED _____ #8 STONE (3/8" MAX)

6. WATER REDUCING ADMIXTURE SHALL BE USED IN ALL CONCRETE.
7. AIR ENTRAINING ADMIXTURE IN ACCORDANCE WITH ACI 301-84 TABLE 3.4.1. SHALL BE USED IN ALL CONCRETE EXPOSED TO FREEZING AND THAWING DURING CONSTRUCTION OR SERVICE CONDITIONS.
8. WATER/CEMENT RATIO SHALL NOT EXCEED 0.45 FOR ANY CONCRETE SUBJECTED TO FREEZING/THAWING.
9. ALL PUMPED CONCRETE SHALL HAVE A WATER/CEMENT RATIO LESS THAN 0.45 AND SHALL CONTAIN A HIGH RANGE WATER REDUCING ADMIXTURE (SUPERPLASTICIZER).
10. IN NO CASE SHALL A WATER/CEMENT RATIOS EXCEED THE FOLLOWING:
    - I. ALL FOUNDATION CONCRETE f'c 3000 psi ..... 0.55 MAX. W/C RATIO
    - II. EXTERIOR PAVING CONCRETE f'c 3500 psi ..... 0.50 MAX. W/C RATIO
    - III. ALL EXPOSED C.I.P. WATERTABLE, PIERS, ETC.. f'c 3500 psi ..... 0.45 MAX. W/C RATIO
    - IIII. SLABS ON GRADE f'c 3000 psi ..... 0.45 MAX. W/C RATIO
11. LIQUID MEMBRANE CURING COMPOUND WITH A MINIMUM 30% SOLIDS CONTENT SHALL BE APPLIED WITHIN TWO (2) HOURS AFTER COMPLETION OF FINISHING TO ALL CONCRETE FLATWORK AND WALLS, U.N.O., OTHER THAN FOOTINGS AND GRADE BEAMS.
12. FLOORS IN AREAS RECEIVING QUARRY TILE, CERAMIC TILE AND LIQUID FLOOR HARDENER SHALL BE CURED WITH DISSIPATING LIQUID MEMBRANE CURING COMPOUND OR WET CURED BY USE OF MOISTURE RETAINING COVER. DISSIPATING CURING COMPOUND SHALL BE THOROUGHLY BROOMED AND WASHED OFF PRIOR TO APPLICATION OF FLOOR FINISH.
13. USE A NON-CORROSIVE, NON-CHLORIDE ACCELERATING ADMIXTURE IN CONCRETE EXPOSED TO TEMPERATURES BELOW 40 DEGREES. UNIFORMLY HEAT THE WATER AND AGGREGATES TO A TEMPERATURE OF NOT LESS THAN 50 DEGREES. PLACE AND CURE CONCRETE IN ACCORDANCE WITH ACI 306.
14. ALL CONSTRUCTION JOINTS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE UNLESS THEIR ELIMINATION IS APPROVED BY THE STRUCTURAL ENGINEER.
15. REINFORCING IN ALL ABUTTING CONCRETE, INCLUDING FOOTINGS, SHALL BE CONTINUOUS THROUGH OR AROUND ALL CORNERS OR INTERSECTIONS. DOWELS OR SPLICES SHALL BE EQUAL IN SIZE AND SPACING TO THE REINFORCING IN THE ABUTTING MEMBERS.
16. REFER TO ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, DRIPS, REGLETS, WASHES, MASONRY ANCHORS, BRICK LEDGE ELEVATIONS, SLAB DEPRESSIONS AND MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.
17. FORMS FOR ROUND COLUMNS SHALL BE ONE PIECE FIBERGLASS FORM TO PRODUCE SMOOTH FINISH ON EXPOSED COLUMNS.
18. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301.
19. BASE PLATES, ANCHOR RODS, SUPPORT ANGLES AND OTHER STEEL EXPOSED TO EARTH OR GRANULAR FILL SHALL BE COVERED WITH A MINIMUM OF 3" OF CONCRETE.
20. FINISHING TOLERANCE SHALL BE WITHIN CLASS B IN ACCORDANCE WITH ACI 301 AND CONSIDERATION SHALL BE GIVEN TO SEQUENCING OF CONCRETE PLACEMENT TO FACILIATE CONTROL OF FINISH ELEVATIONS.
21. NON-SHRINK GROUT SHALL BE PRE-MIXED, NON-CORROSIVE, NON-METALLIC, NON-STAINING CONTAINING SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AND WATER REDUCING AGENTS. PRODUCTS SHALL ONLY REQUIRE THE ADDITION OF WATER. MINIMUM COMPRESSIVE STRENGTH SHALL BE 5000 PSI AFTER ONE DAY AND 10000 PSI AFTER 28 DAYS. GROUT SHALL BE FREE OF GAS PRODUCING OR AIR RELEASING AND OXIDIZING AGENTS AND CONTAIN NO CORROSIVE IRON, ALUMINUM OR GYPSUM.
22. PROVIDE CONCRETE GROUT - NOT MORTAR - FOR REINFORCING MASONRY LINTEL AND BOND BEAMS WHERE INDICATED ON DRAWINGS OR AS SCHEDULED.
23. TOLERANCE FOR ANCHOR RODS AND OTHER EMBEDDED ITEMS SHALL BE PER THE AISC CODE OF STANDARD PRACTICE SECTION 7.5.
24. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT ALL COLUMN, WALL, SLAB, OR BEAM EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027355 REED N. SELF 11/9/2020

REVISIONS	DATE	BY

DATE: 11/05/20
DRAWN BY: K. MACLAY
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: MY STORAGE UNIT
PROJECT ADDRESS: LILLINGTON, NORTH CAROLINA
OWNER: MY STORAGE UNIT, LLC.
PROJECT NO.: NC20251
SHEET TITLE: BUILDING NOTES
DRAWING NUMBER: CS2 OF 3

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: My Storage Unit
Address: Lillington, NC Zip Code 27546
Owner/Authorized Agent: Joe Gardner Phone # (910) 891-9600 E-Mail:
Owned By: Private
Code Enforcement Jurisdiction: County

CONTACT: _____

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				(___)	
Civil				(___)	
Electrical				(___)	
Fire Alarm				(___)	
Plumbing				(___)	
Mechanical				(___)	
Sprinkler-Standpipe				(___)	
Structural	Betco	Self	27355	(704)872-2999	reeds@betcoinc.com
Retaining Walls >5' High				(___)	
Other				(___)	

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building

2018 NC EXISTING BUILDING CODE: N/A N/A N/A
CONSTRUCTED: (date) _____ **CURRENT OCCUPANCY(S)** (Ch. 3): _____
RENOVATED: (date) _____ **PROPOSED OCCUPANCY(S)** (Ch. 3): _____

OCCUPANCY CATEGORY (Table 1604.5): **Current:** N/A **Proposed:** I

BASIC BUILDING DATA
Construction Type: II-B
Sprinklers: Select one Select one
Standpipes: Select one
Primary Fire District: Select one **Flood Hazard Area:** Select one
Special Inspections Required: Select one

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
Building 1		5000	5000
Building 2		2600	2600
TOTAL		7600	7600

ALLOWABLE AREA

Primary Occupancy Classification(s): Storage - S-1 N/A N/A N/A N/A N/A
Accessory Occupancy Classification(s): _____

Incidental Uses (Table 509): _____
Special Uses (Chapter 4 – List Code Sections): _____
Special Provisions: (Chapter 5 – List Code Sections): _____
Mixed Occupancy: No Separation: Select one Exception: _____

Select one

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + ... = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
Bldg 1	S-1	2600	17500	0	17500
Bldg 2	S-1	5000	17500	0	17500

[1] Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase I_f = 100[F/P – 0.25] x W/30 = _____ (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	55 ft	8.5 ft	
Building Height in Stories (Table 504.4)	2	1	

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (w/ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		NC					
Bearing Walls							
Exterior	>= 10 ft						
North	>= 10 ft						
East	>= 10 ft						
West	>= 10 ft						
South	>= 10 ft						
Interior							
Nonbearing Walls and Partitions	N/A						
Exterior walls							
North	N/A						
East	N/A						
West	N/A						
South	N/A						
Interior walls and partitions	N/A						
Floor Construction Including supporting beams and joists	N/A						
Floor Ceiling Assembly	N/A						
Columns Supporting Floors							
Roof Construction, including supporting beams and joists	N/A						
Roof Ceiling Assembly	N/A						
Columns Supporting Roof	N/A						
Shaft Enclosures - Exit	N/A						
Shaft Enclosures - Other	N/A						
Corridor Separation	N/A						
Occupancy/Fire Barrier Separation	N/A						
Party/Fire Wall Separation	N/A						
Smoke Barrier Separation	N/A						
Smoke Partition	N/A						
Tenant/Dwelling Unit/ Sleeping Unit Separation	N/A						
Incidental Use Separation	N/A						

* Indicate section number permitting reduction NC=Non-combustible

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENING PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Select one
Exit Signs: Select one
Fire Alarm: Select one
Smoke Detection Systems: Select one
Carbon Monoxide Detection: Select one

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

- ☐ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☐ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☐ Occupant loads for each area

- ☐ Exit access travel distances (1017)
- ☐ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4)
- ☐ Clear exit widths for each exit door
- ☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☐ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (202)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED				TOTAL # ACCESSIBLE SPACES PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	8' ACCESS AISLE		
TOTAL							

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS			URINALS	LAVATORIES			SHOWERS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX	/TUBS	REGULAR	ACCESSIBLE
SPACE	EXIST'G										
	NEW										
	REQ'D										

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

_____

_____

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: Select one

Exempt Building: Yes Provide code or statutory reference: N.C.G.S 143-138

Climate Zone: Select one

Method of Compliance: Select one
(If "Other" specify source here)_____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of assembly: _____
Solar heat gain coefficient: _____
projection factor: _____
Door R-Values: _____

Walls below grade (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab heated: _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Snow (I_S) 0.80
Seismic (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine N/A psf
Floor 125 psf

Ground Snow Load: 15 psf

Wind Load: Design Wind Speed V(ultimate)= 110 mph (ASCE 7-10)
Exposure Category B
Wind Base Shear (MWFRS): Bldg 1; Vx=34.9 k Vy=78.9 k
Bldg 2; Vx=18.6 k Vy=41.0 k

SEISMIC DESIGN CATEGORY: C
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) I
Spectral Response Acceleration S_S =18.3 %g S_1 =8.6 %g

Site Classification (ASCE 7) D
Data Source: Presumptive
Basic structural system Building Frame
Seismic Base Shear: Bldg 1; Vx=0.700 k Vy=0.700 k
Bldg 2; Vx=0.364 k Vy=0.364 k

Analysis Procedure: Equivalent Lateral Force
Architectural, Mechanical, Components anchored? Yes

LATERAL DESIGN CONTROL: Wind

SOIL BEARING CAPACITIES:
Presumptive Bearing Capacity 3000 psf
Pile size, type, and capacity _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: _____
summer dry bulb: _____

Interior design conditions
winter dry bulb: _____
summer dry bulb: _____
relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System
Unitary
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____
Boiler
Size category. If oversized, state reason.: _____
Chiller
Size category. If oversized, state reason.: _____

List equipment efficiencies: _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Select one

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
- ☐ C406.2 More Efficient HVAC Equipment Performance
- ☐ C406.3 Reduced Lighting Power Density
- ☐ C406.4 Enhanced Digital Lighting Controls
- ☐ C406.5 On-Site Renewable Energy
- ☐ C406.6 Dedicated Outdoor Air System
- ☐ C406.7 Reduced Energy Use in Service Water Heating

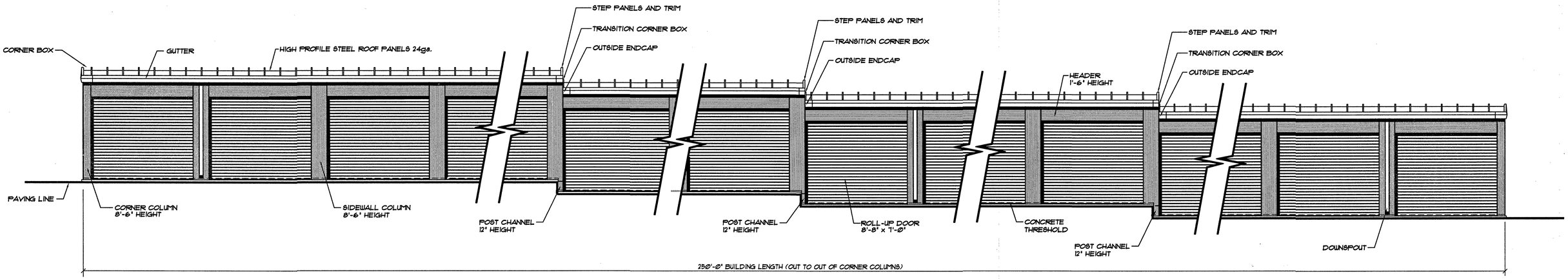
BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

REVISIONS	DATE	BY

DATE: 11/05/20
DRAWN BY: K. MACLAY
SCALE: AS NOTED
APPROVED BY:

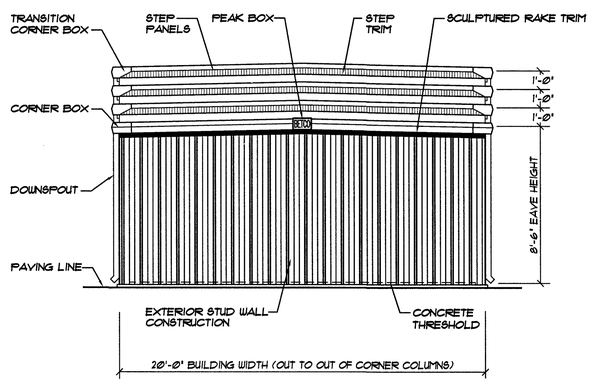
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: MY STORAGE UNIT
PROJECT ADDRESS: LILLINGTON, NORTH CAROLINA
OWNER: MY STORAGE UNIT, LLC.
PROJECT NO.: NC20251
SHEET TITLE: APPENDIX "B"
DRAWING NUMBER: CS3 OF 3



A/S1 SIDEWALL ELEVATION . . . BUILDING "1"

SCALE: 1/4" = 1'-0"



B/S1 ENDWALL ELEVATION . . . BUILDING "1"

SCALE: 1/4" = 1'-0"

NOTE: . . . SEE OWNER FOR BUILDING ORIENTATION ON SITE

NOTE:
DOWNSPOUTS LOCATIONS SHOWN FOR ELEVATION PURPOSE ONLY. REFER TO FLOOR PLAN SHEETS FOR LOCATIONS

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228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

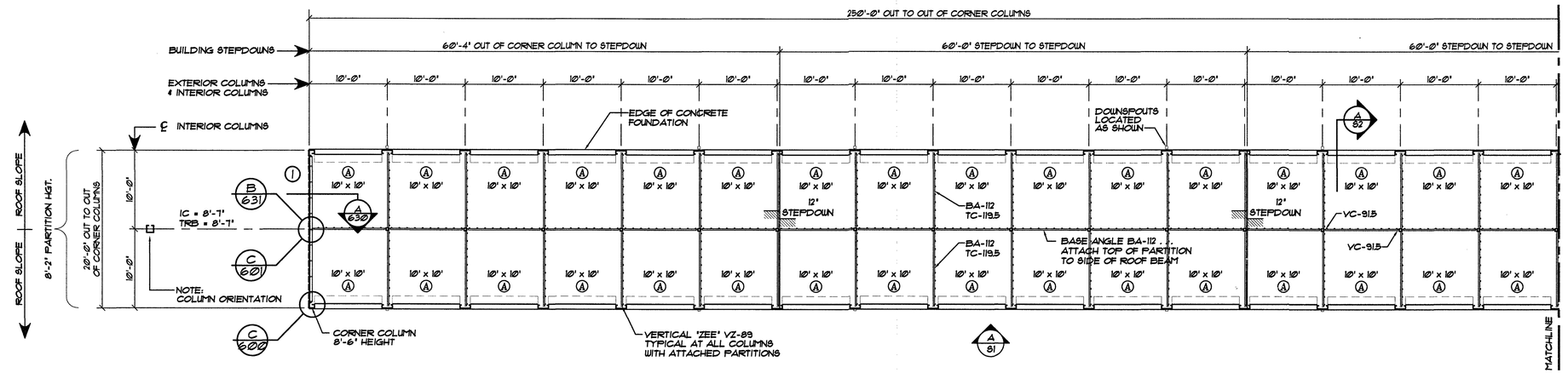
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF
11-9-2020

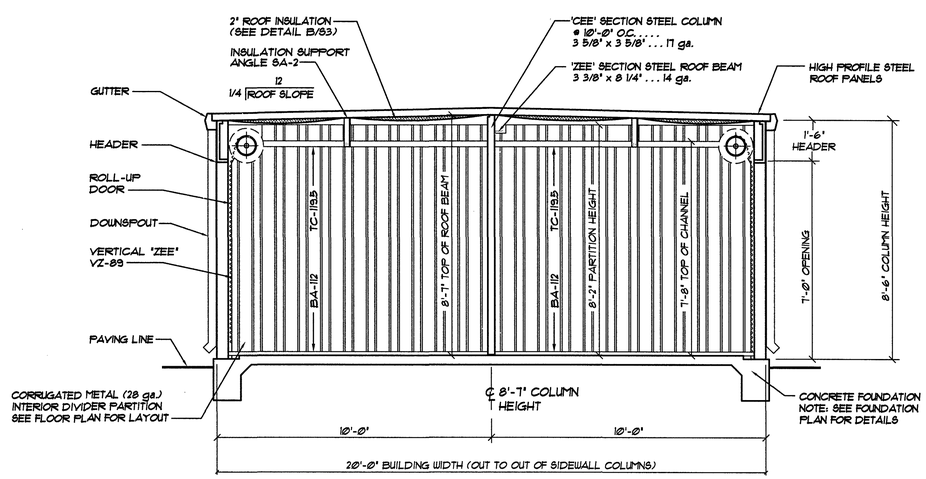
REVISIONS	DATE	BY

DATE: 11/05/20
DRAWN BY: K. MACLAY
SCALE: AS NOTED
APPROVED BY:

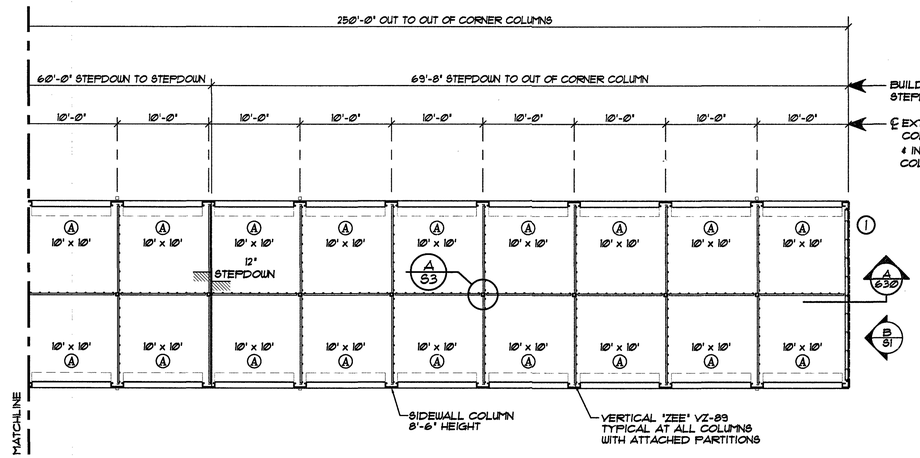
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: MY STORAGE UNIT
PROJECT ADDRESS: LILLINGTON, NORTH CAROLINA
OWNER: MY STORAGE UNIT, LLC.
PROJECT NO.: NC202251
SHEET TITLE: ELEVATIONS & NOTES BUILDING "1"
DRAWING NUMBER: S1 OF 3





A/S2 20'-0" WIDE CROSS SECTION
BUILDINGS "1" & "2"
SCALE : 3/8" = 1'-0"



FLOOR PLAN . . . BUILDING "1"
SCALE: 1" = 10'-0"

NOTE: BUILDING "1" IS PROVIDED W/(6) ADJUSTABLE CONTROL JOINT COLUMNS. 8'-6" HEIGHT

NOTE: . . . SEE OWNER FOR BUILDING ORIENTATION ON SITE

NOTE: BLOCK ALL LOAD-BEARING INTERIOR & EXTERIOR STUDWALLS AS SHOWN IN DETAIL A OF ERC631X

DOOR SCHEDULE		
ID	DOOR SIZE	TYPE
A	8'-8" x 7'-0"	EXTERIOR ROLL-UP

STUDWALL LEGEND — BUILDING "1"	
EXTERIOR STUDWALL	
DESCRIPTION	UNINSULATED
(1) EXTERIOR STUDWALL CONSTRUCTION AT FLAT SLAB (BLOCK @ MID-HGT.)	40 L.F.

NOTE #1: SEE ERC610X FOR COMPLETE STUDWALL CONSTRUCTION DETAILS.

NOTE:
UNIT SIZES SHOWN ARE NOMINAL. ACTUAL CLEAR DIMENSIONS INSIDE UNITS MAY VARY ACCORDING TO FINAL DESIGN OF COMPONENTS.

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF
11-9-2020

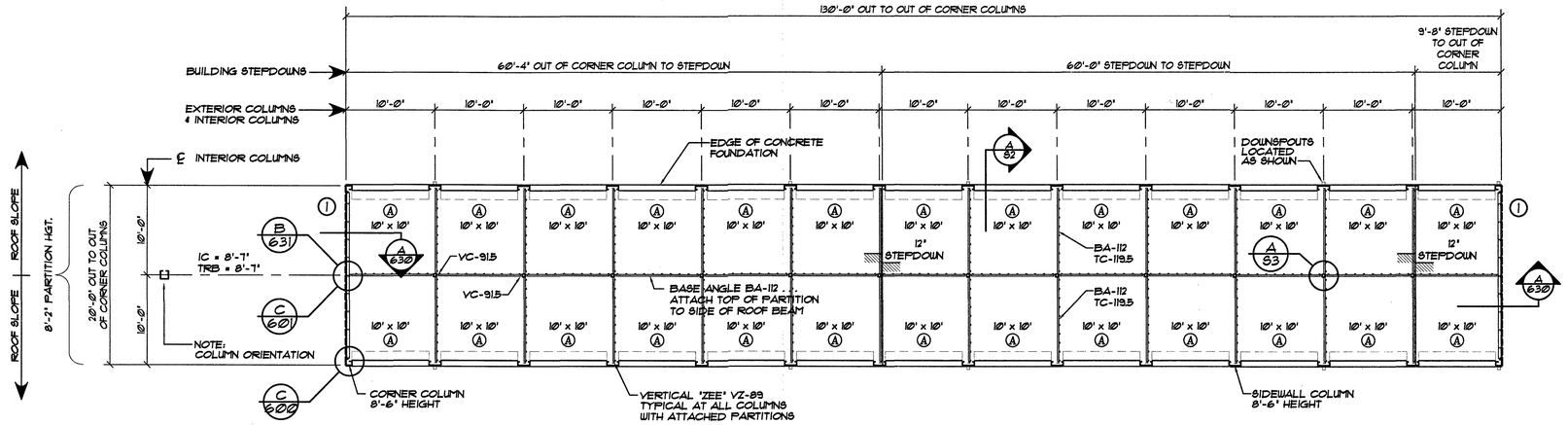
REVISIONS	DATE	BY

DATE: 11/05/20
DRAWN BY: K. MACLAY
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

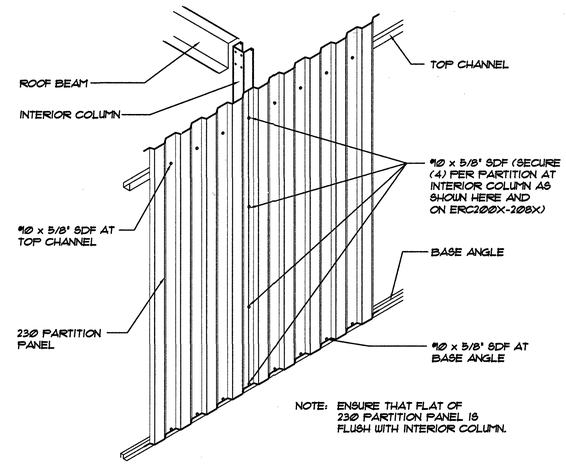
PROJECT NAME: MY STORAGE UNIT
PROJECT ADDRESS: LILLINGTON, NORTH CAROLINA
OWNER: MY STORAGE UNIT, LLC.
PROJECT NO.: NC20251
SHEET TITLE: FLOOR PLAN, CROSS SECTION & NOTES - BUILDING "1"
DRAWING NUMBER: S2 OF 3



FLOOR PLAN . . . BUILDING "2"

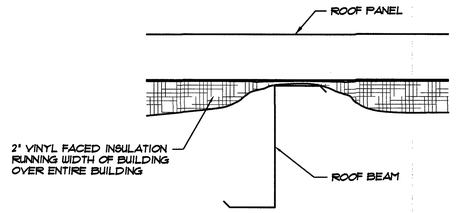
SCALE: 1" = 10'-0"

NOTE: BUILDING "2" IS PROVIDED W/(2) ADJUSTABLE CONTROL JOINT COLUMNS. 8'-6" HEIGHT



A S3 PARTITION ATTACHMENT @ INTERIOR COLUMNS

NOT TO SCALE



B S3 INSULATION @ ROOF BEAM

NOT TO SCALE

DOOR SCHEDULE		
ID	DOOR SIZE	TYPE
A	8'-8" x 7'-0"	EXTERIOR ROLL-UP

STUDWALL LEGEND — BUILDING "2"

EXTERIOR STUDWALL

DESCRIPTION	UNINSULATED
① EXTERIOR STUDWALL CONSTRUCTION AT FLAT SLAB (BLOCK @ MID-HGT.)	40 L.F.

NOTE #1: SEE ERC610X FOR COMPLETE STUDWALL CONSTRUCTION DETAILS.

BETCO, Inc.
228 Commerce Blvd.
Statesville, NC 28625
Limited Engineering License # D-0140

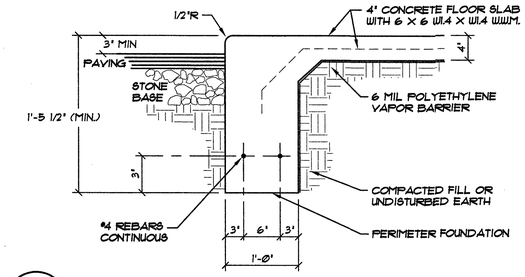
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027355 REED N. SELF 11-5-2020

REVISIONS	DATE	BY

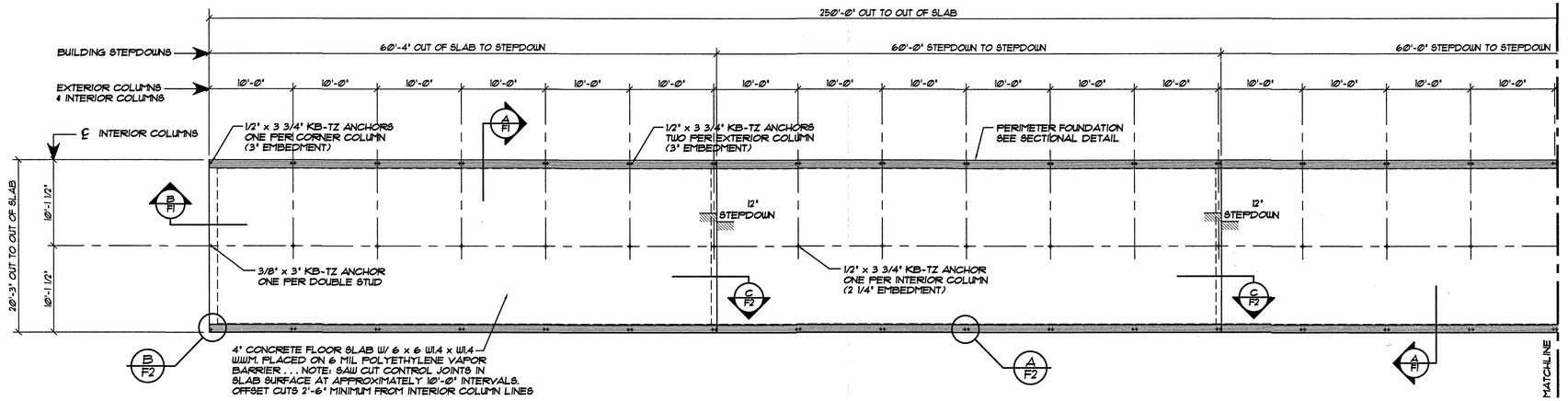
DATE: 11/05/20
DRAWN BY: K. MACLAY
SCALE: AS NOTED
APPROVED BY:

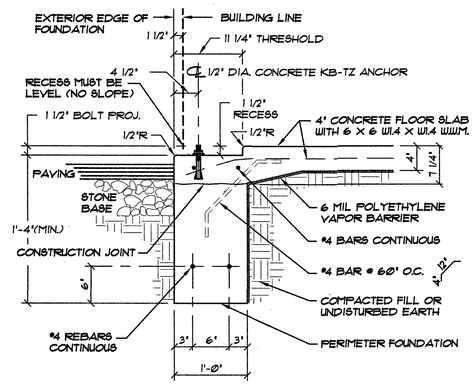
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: MY STORAGE UNIT
PROJECT ADDRESS: LILLINGTON, NORTH CAROLINA
OWNER: MY STORAGE UNIT, LLC.
PROJECT NO.: NC20251
SHEET TITLE: FLOOR PLAN, DETAILS & NOTES BUILDING "2"
DRAWING NUMBER: S3 OF 3

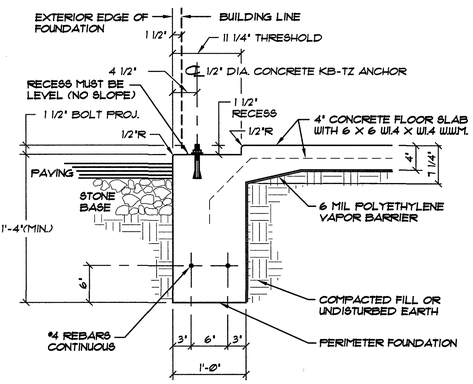


B/F1 PERIMETER FOUNDATION SECTION AT EXTERIOR STUDWALL
(MONOLITHIC CONCRETE PLACEMENT)
NOT TO SCALE

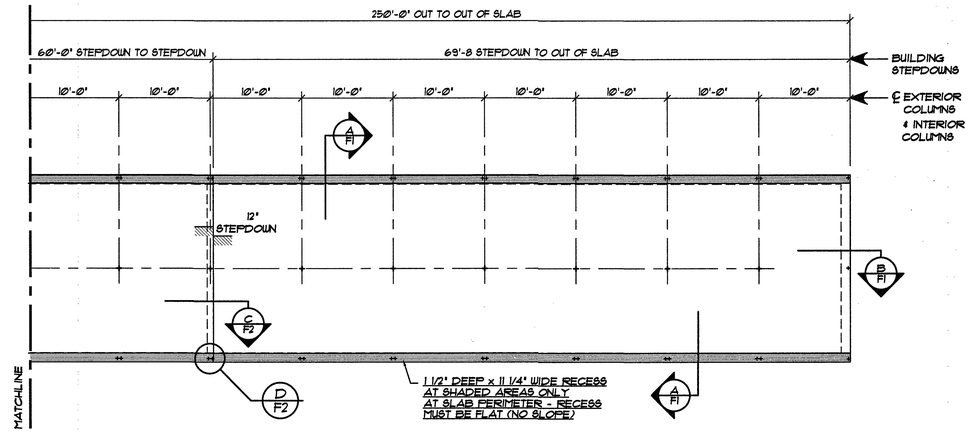




A/F1 ALTERNATE PERIMETER FOUNDATION SECTION
(TWO STAGE CONCRETE PLACEMENT)
NOT TO SCALE



A/F1 TYPICAL PERIMETER FOUNDATION SECTION
(MONOLITHIC CONCRETE PLACEMENT)
NOT TO SCALE



FOUNDATION PLAN . . . BUILDING "1"

SCALE: 1/8" = 1'-0"

SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'-0" INTERVALS . . . OFFSET CUTS 2'-6" MINIMUM FROM INTERIOR COLUMN LINES.

ACI 318 — TABLE 4.2.1
EXPOSURE CATEGORIES AND CLASSES

CATEGORY	SEVERITY	CLASS	CONDITION	
F FREEZING AND THAWING	NOT APPLICABLE	F0	CONCRETE NOT EXPOSED TO FREEZING-AND-THAWING CYCLES	
S SULFATE			WATER-SOLUBLE SULFATE (SO_4) IN SOIL, PERCENT BY WEIGHT	DISSOLVED SULFATE (SO_4) IN WATER, ppm
	NOT APPLICABLE	S0	SO_4 < 0.10	SO_4 < 150
P REQUIRING LOW PERMEABILITY	NOT APPLICABLE	P0	IN CONTACT WITH WATER WHERE LOW PERMEABILITY IS NOT REQUIRED	
C CORROSION PROTECTION OF REINFORCEMENT	MODERATE	C1	CONCRETE EXPOSED TO MOISTURE BUT NOT TO EXTERNAL SOURCES OF CHLORIDES	

NOTE: ABOVE REPRESENTS "ASSUMED" CONDITIONS BY ENGINEER. IF CONTRACTOR KNOWS OR HAS REASON TO BELIEVE OTHERWISE, ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO CONSTRUCTION.

REFERENCE ACI 318 - TABLE 4.3.1 FOR REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS.

NOTE: . . . SEE OWNER FOR BUILDING ORIENTATION ON SITE

NOTE:
KB-TZ ANCHORS ARE PROVIDED BY BETCO. EMBEDDED ANCHOR BOLTS IN SLAB ARE NOT REQUIRED BY BUYER.

NOTE TO OWNER / CONTRACTOR:
DO NOT CUT SAW JOINTS ALONG COLUMN LINES. DOING SO WILL REDUCE THE STRUCTURAL CAPACITY OF THE BUILDING ANCHORAGE TO THE CONCRETE AND MAY RESULT IN ADDITIONAL MATERIAL AND LABOR CHARGES. SAW CUTS MUST BE OFFSET 2'-6" MINIMUM FROM COLUMN LINES.

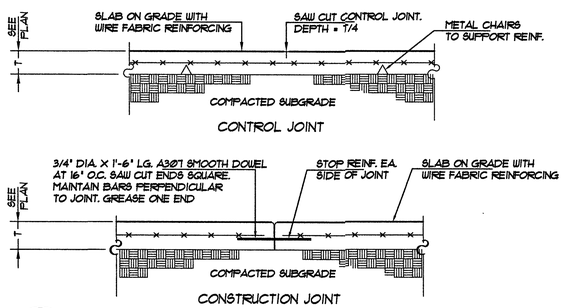
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF
11-9-2020

REVISIONS	DATE	BY

DATE: 11/05/20
DRAWN BY: K. MACLAY
SCALE: AS NOTED
APPROVED BY:

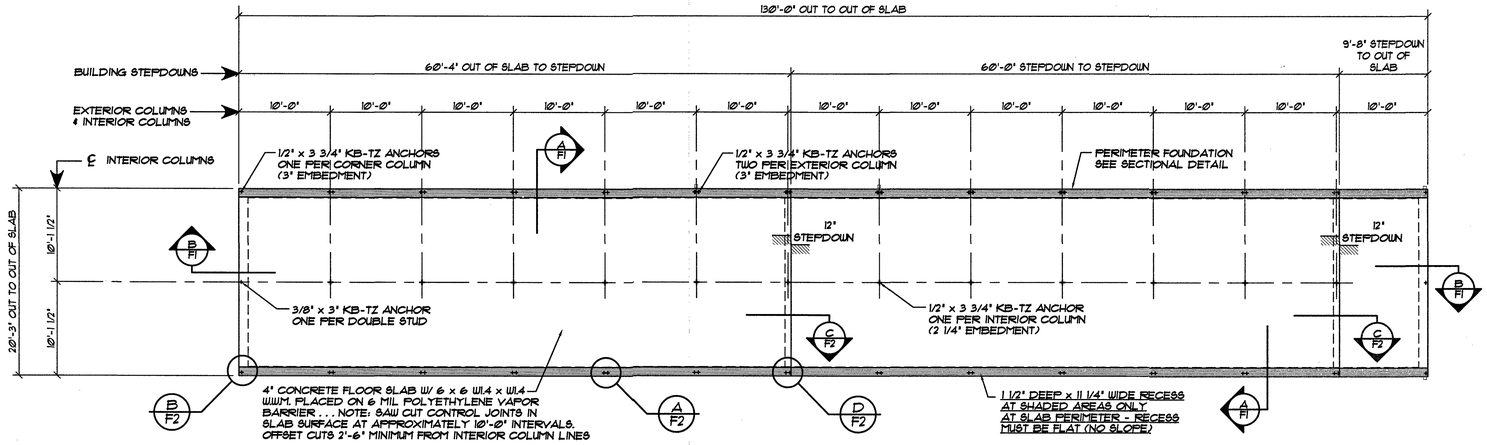
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654-7813

PROJECT NAME: MY STORAGE UNIT
PROJECT ADDRESS: LILLINGTON, NORTH CAROLINA
OWNER: MY STORAGE UNIT, LLC.
PROJECT NO.: NC20251
SHEET TITLE: FOUNDATION PLAN, DETAILS & NOTES BUILDING "1"
DRAWING NUMBER: F1 OF 2



E / F2 CONTROL JOINT & CONSTRUCTION JOINT IN CONCRETE SLAB

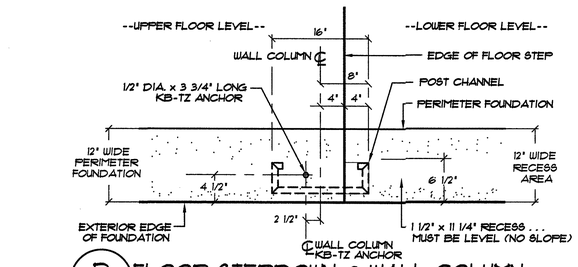
NOT TO SCALE



FOUNDATION PLAN . . . BUILDING "2"

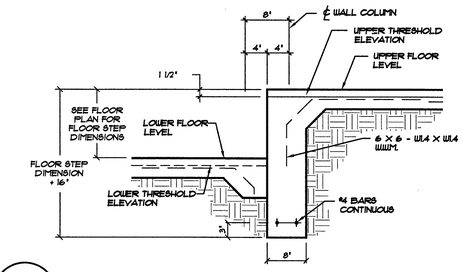
SCALE: 1/8" = 1'-0"

SAW CUT CONTROL JOINTS IN SLAB SURFACE AT APPROXIMATELY 10'–0" INTERVALS . . . OFFSET CUTS 2'–6" MINIMUM FROM INTERIOR COLUMN LINES.



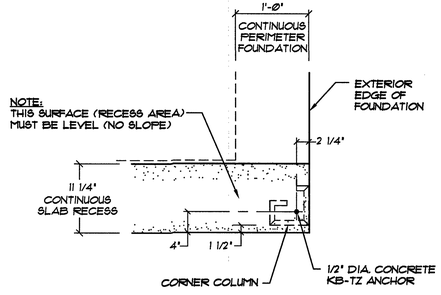
D / F2 FLOOR STEPDOWN @ WALL COLUMN

NOT TO SCALE



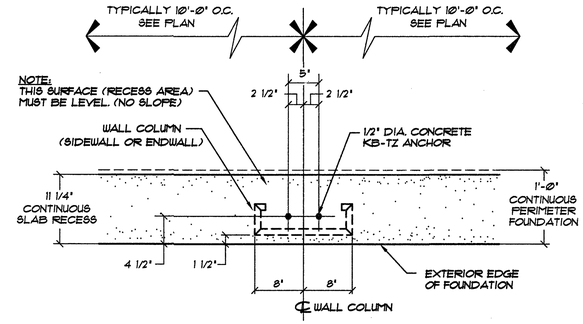
C / F2 FOUNDATION SECTION @ FLOOR STEP

NOT TO SCALE



B / F2 CORNER WEDGE ANCHORS AT STUD WALL

NOT TO SCALE



A / F2 TYPICAL WALL COLUMN WEDGE ANCHORS

NOT TO SCALE

NOTE:
KB-TZ ANCHORS ARE PROVIDED BY BETCO. EMBEDDED ANCHOR BOLTS IN SLAB ARE NOT REQUIRED BY BUYER.

NOTE: . . . SEE OWNER FOR BUILDING ORIENTATION ON SITE

NOTE TO OWNER / CONTRACTOR:

DO NOT CUT SAW JOINTS ALONG COLUMN LINES. DOING SO WILL REDUCE THE STRUCTURAL CAPACITY OF THE BUILDING ANCHORAGE TO THE CONCRETE AND MAY RESULT IN ADDITIONAL MATERIAL AND LABOR CHARGES. SAW CUTS MUST BE OFFSET 2'-6" MINIMUM FROM COLUMN LINES.

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF
11-9-2020

REVISIONS	DATE	BY

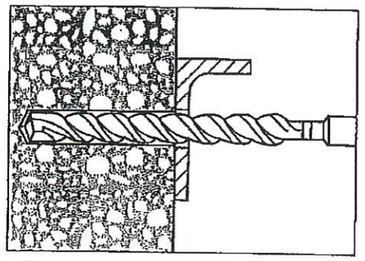
DATE: 11/05/20
DRAWN BY: K. MACLAY
SCALE: AS NOTED
APPROVED BY:

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800) 654–7813

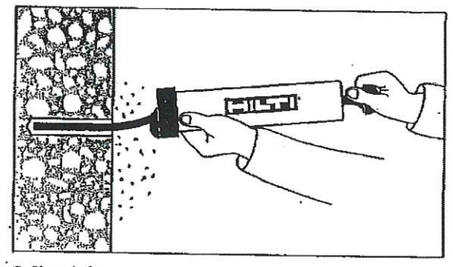
PROJECT NAME: MY STORAGE UNIT
PROJECT ADDRESS: LILLINGTON, NORTH CAROLINA
OWNER: MY STORAGE UNIT, LLC.
PROJECT NO.: NC20251
SHEET TITLE: FFOUNDATION PLAN, DETAILS & NOTES BUILDING "2"
DRAWING NUMBER: F'2 OF 2

RELEASED FOR CONSTRUCTION, Date: 11/9/2020, Time: 1:10 PM

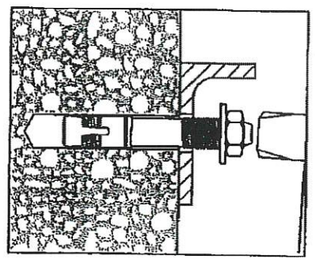
Kwik Bolt 3 Expansion Anchor Installation Instructions



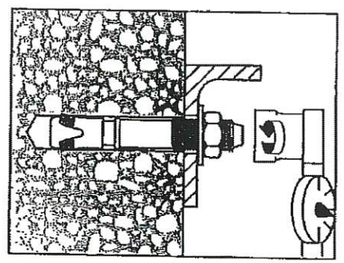
1. Hammer drill a hole to the same nominal diameter as the Kwik Bolt 3. The hole depth must exceed the anchor embedment by at least one diameter. The fixture may be used as a drilling template to ensure proper anchor location.



2. Clean hole.



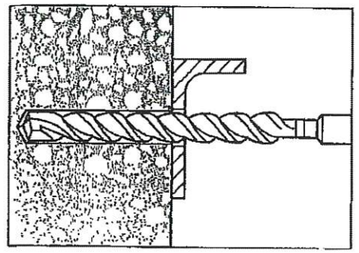
3. Drive the Kwik Bolt 3 into the hole using a hammer. The anchor must be driven until at least six threads are below the surface of the fixture.



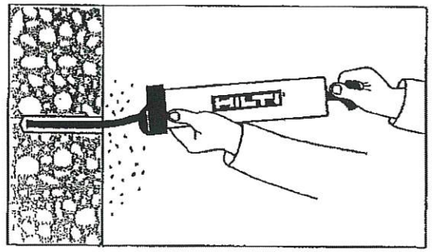
4. Tighten the nut to the recommended installation torque.

DESIGN INFORMATION	Units	Nominal Anchor Diameter				
		1/4	3/8	1/2	5/8	3/4
Installation torque	ft*lb	4	20	40	60	110
	(Nm)	(5)	(27)	(54)	(81)	(149)

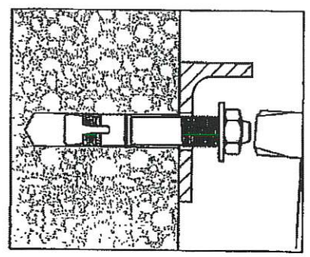
Kwik Bolt TZ Anchor Installation Instructions into normal-weight and lightweight concrete



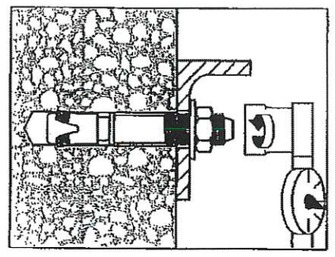
1. Hammer drill a hole to the same nominal diameter as the Kwik Bolt TZ. The hole depth must exceed the anchor embedment by at least 1/4 inch. The fixture may be used as a drilling template to ensure proper anchor location.



2. Clean hole.



3. Drive the Kwik Bolt TZ into the hole using a hammer. The anchor must be driven until at least 4 threads are below the surface of the fixture.



4. Tighten the nut to the recommended installation torque.

SETTING INFORMATION	Units	Nominal anchor diameter (in.)			
		3/8	1/2	5/8	3/4
Installation torque	lt-lb	25	40	60	110
	(Nm)	(34)	(54)	(81)	(149)

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER

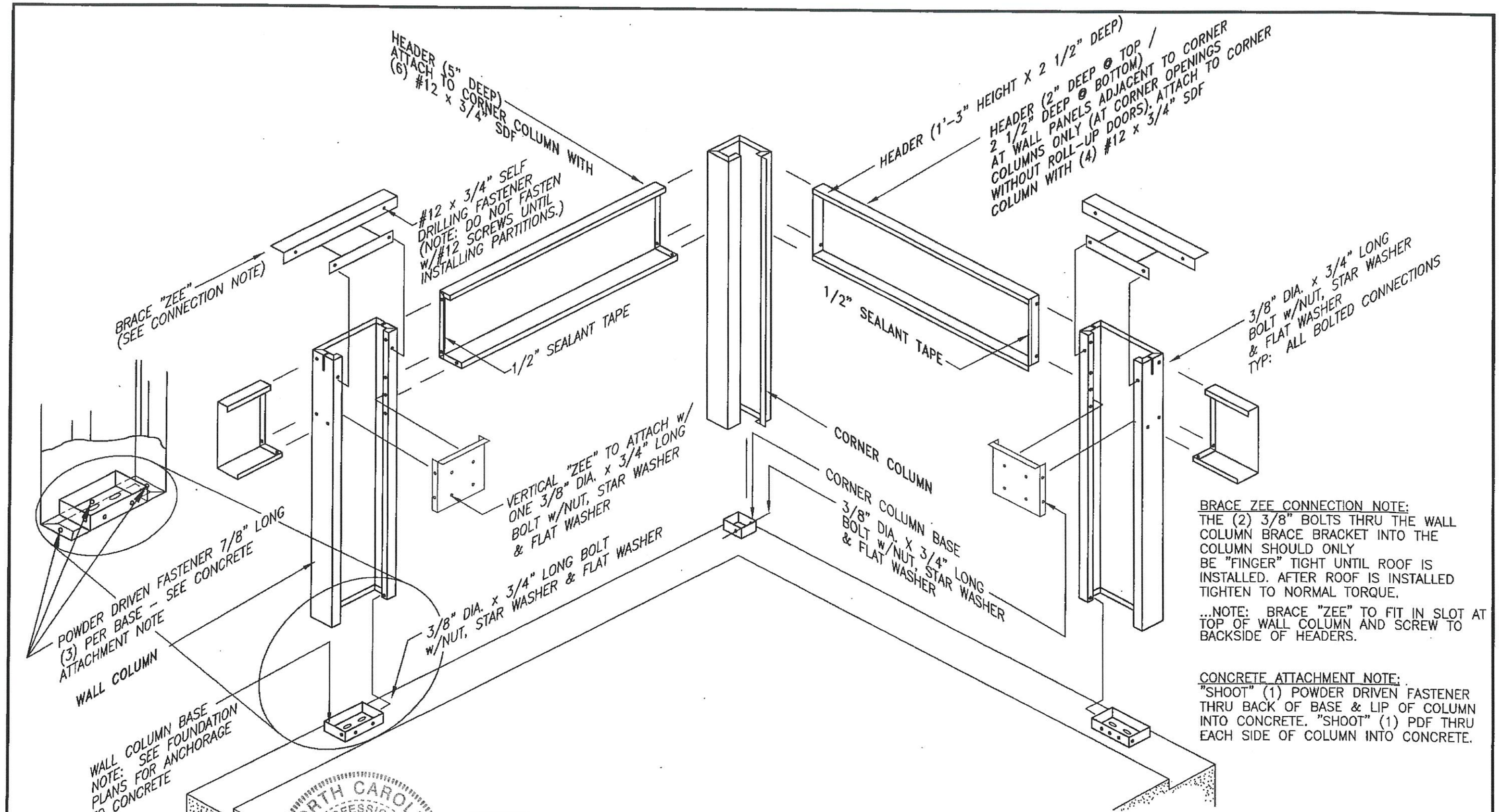
REED A. SEAL

REVISIONS	DATE	BY

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE: Kwik Bolt Anchor Installation Instructions

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
BDL		ERC016X
SCALE: NTS	DATE: 11/8/2011	



BRACE ZEE CONNECTION NOTE:
THE (2) 3/8" BOLTS THRU THE WALL COLUMN BRACE BRACKET INTO THE COLUMN SHOULD ONLY BE "FINGER" TIGHT UNTIL ROOF IS INSTALLED. AFTER ROOF IS INSTALLED TIGHTEN TO NORMAL TORQUE.

...NOTE: BRACE "ZEE" TO FIT IN SLOT AT TOP OF WALL COLUMN AND SCREW TO BACKSIDE OF HEADERS.

CONCRETE ATTACHMENT NOTE:
"SHOOT" (1) POWDER DRIVEN FASTENER THRU BACK OF BASE & LIP OF COLUMN INTO CONCRETE. "SHOOT" (1) PDF THRU EACH SIDE OF COLUMN INTO CONCRETE.

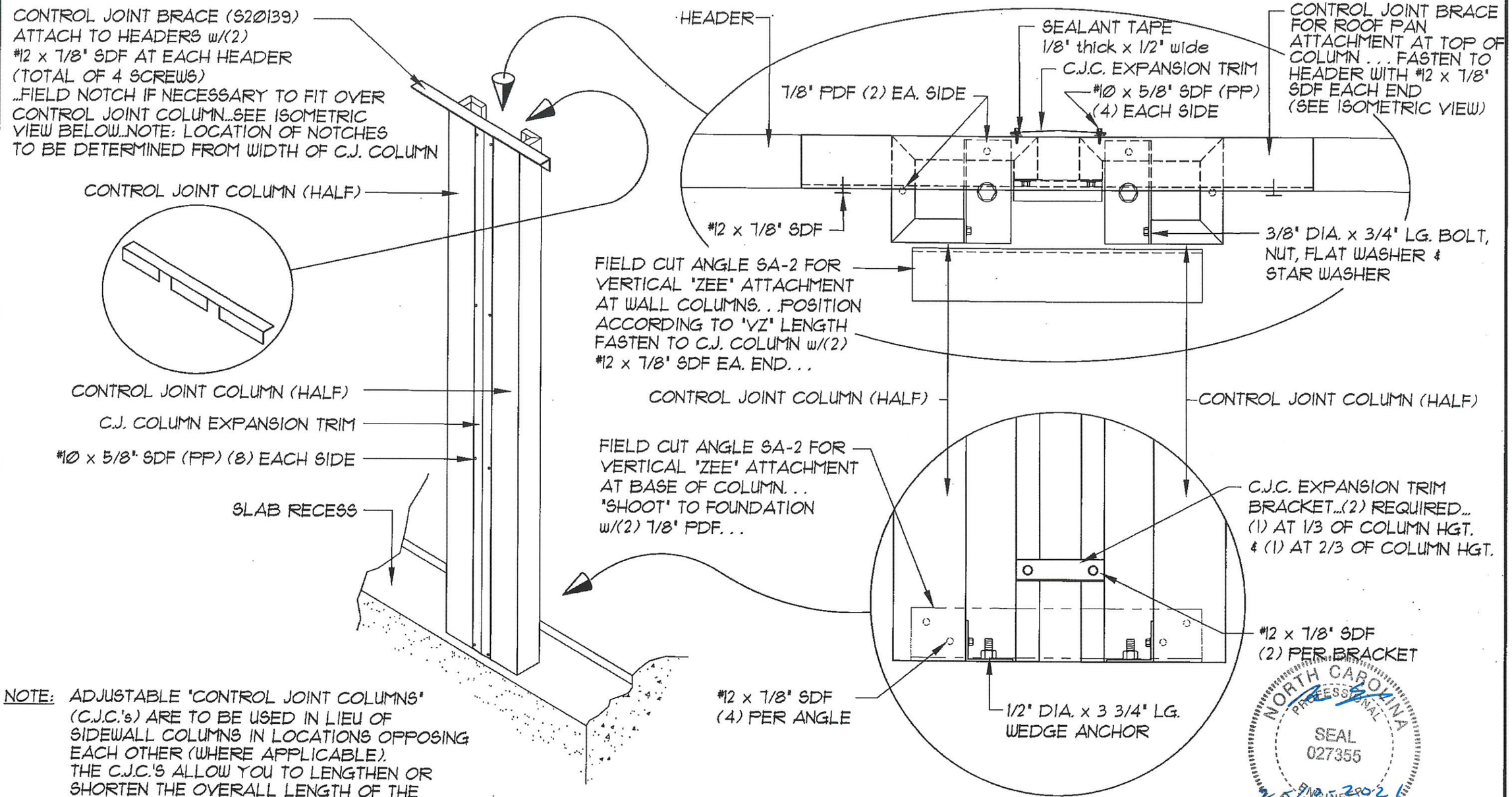
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF
2-18-2021

REVISIONS	DATE	BY

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE:
PERIMETER WALL ASSEMBLY
All Eave Heights

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J Pope		ERC100X
SCALE: NTS	DATE: 6/17/94	



NOTE: ADJUSTABLE 'CONTROL JOINT COLUMNS' (C.J.C.'s) ARE TO BE USED IN LIEU OF SIDEWALL COLUMNS IN LOCATIONS OPPOSING EACH OTHER (WHERE APPLICABLE). THE C.J.C.'S ALLOW YOU TO LENGTHEN OR SHORTEN THE OVERALL LENGTH OF THE BLDG. BY UP TO 2'. THIS GIVES YOU THE ABILITY TO MAKE ADJUSTMENTS FOR A SLAB THAT IS NOT EXACTLY THE DIMENSIONS SPECIFIED.

DO NOT INSTALL WEDGE ANCHORS IN C.J.C. LOCATIONS UNTIL COLUMNS ARE IN PLACE & ADJUSTED AS REQUIRED.

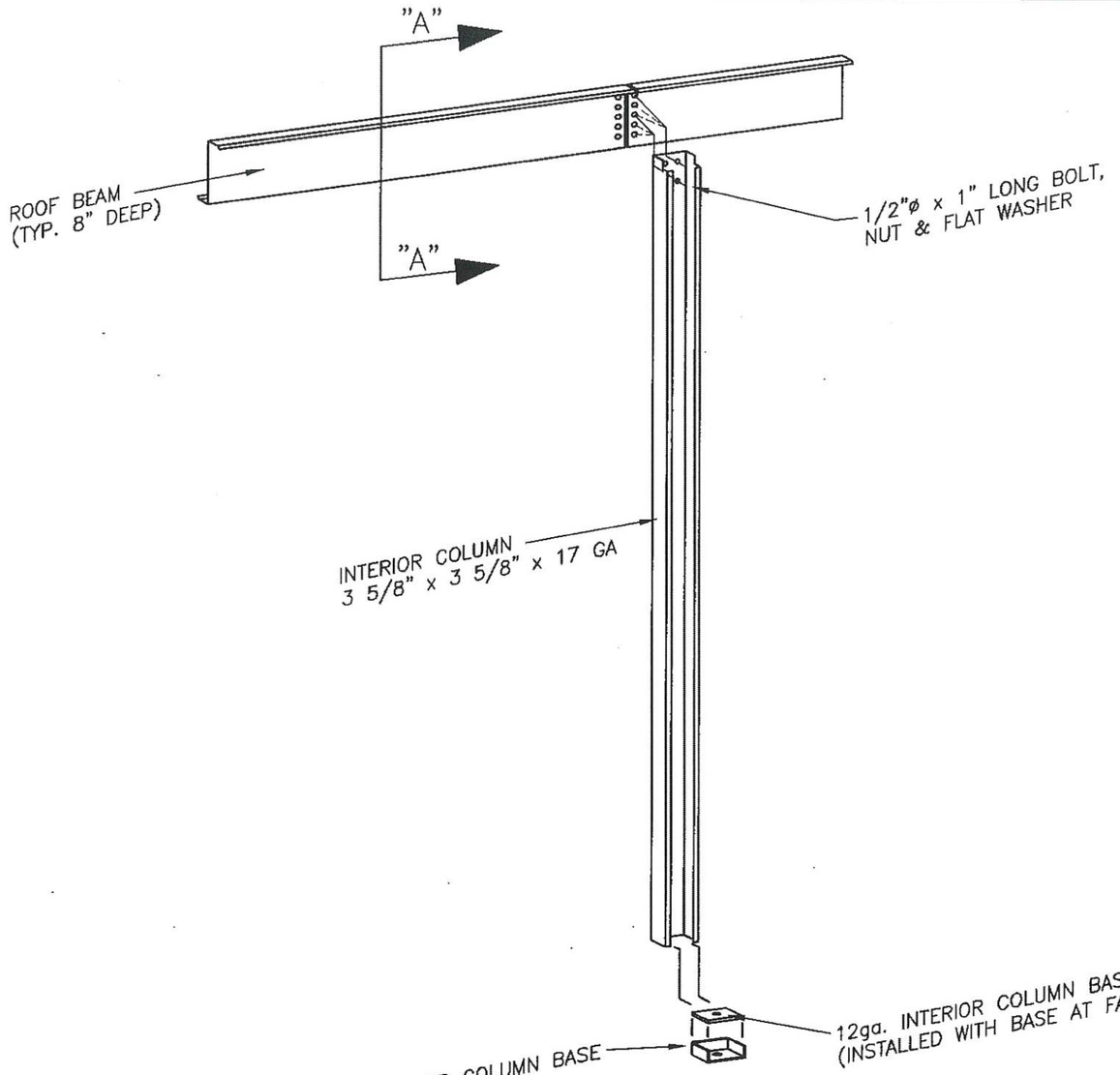
REVISIONS	DATE	BY
4 ADDED SDF'S TO CJC TRIM	11/15/05	JCM
3 CHANGED W/A LENGTH TO 3 3/4"	4/30/03	RSG
2 GENERAL REVISIONS	1/22/99	JAB
1 GENERAL REVISIONS	3-8-99	FOX

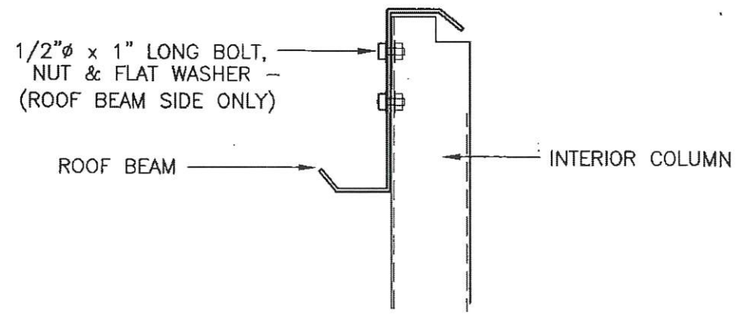
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE:
CONTROL JOINT COLUMN AND TRIM INSTALLATION

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
K.D.W.		ERC105X
SCALE: NTS	DATE: 8/1/94	

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF





SECTION
"A" – "A"

NOTE: SEE BUILDING CROSS SECTION FOR COLUMN HEIGHT & ROOF BEAM HGT. ABOVE FINISHED FLOOR

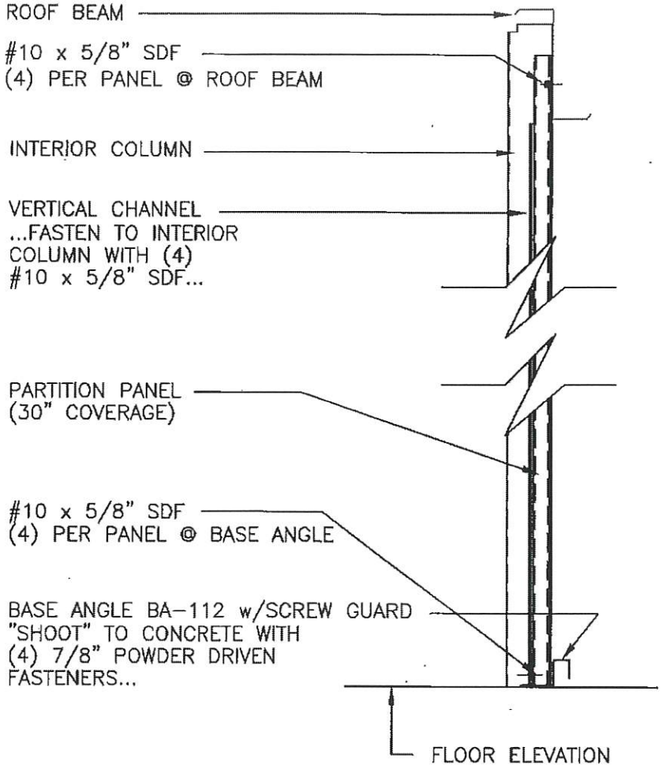
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER FRED N SELF

REVISIONS	DATE	BY
3 REVISED COLUMN SIZE	8-29-02	BAM
2 DETAIL REVISIONS	3-16-99	FOX
1 GENERAL REVISIONS	3-9-99	FOX

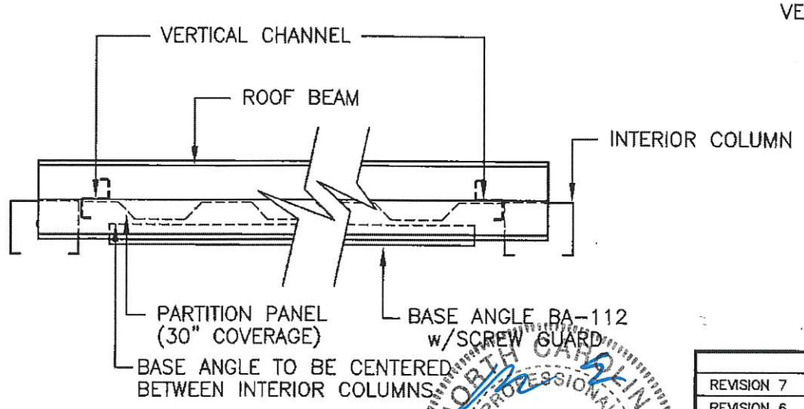
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE:
Interior Column Installation All Heights

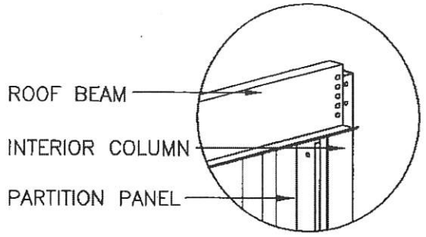
DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J POPE		*ERC110X*
SCALE: NTS	DATE: 1/30/98	



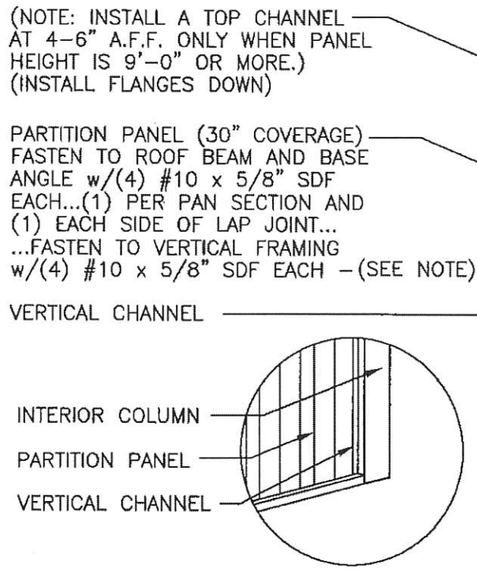
SECTION A-A



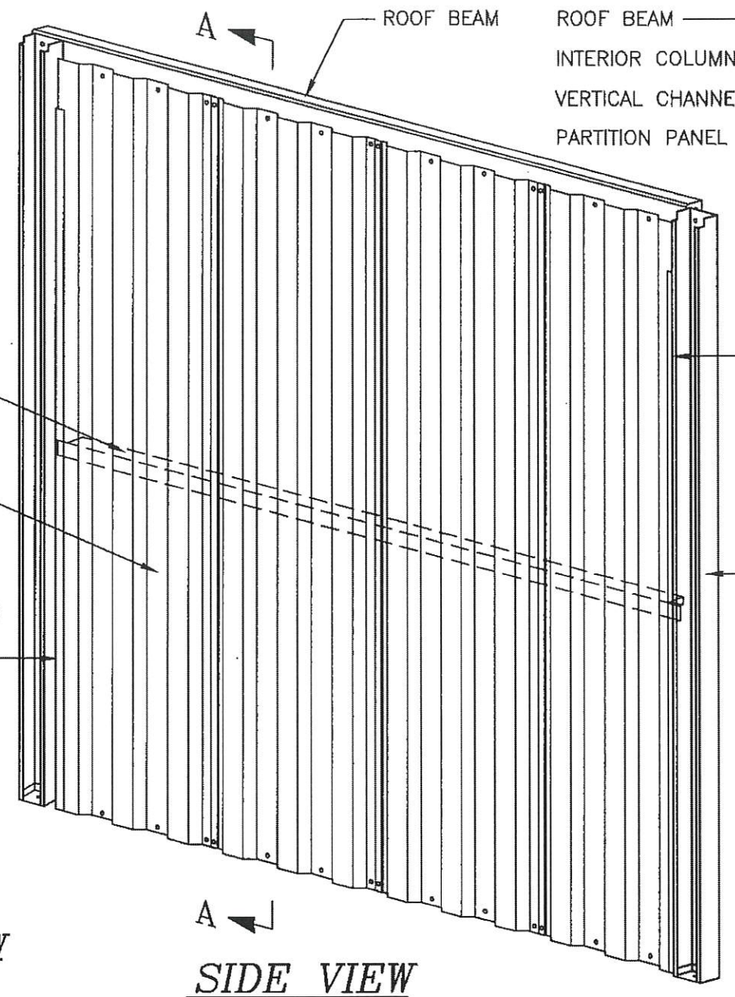
PLAN VIEW



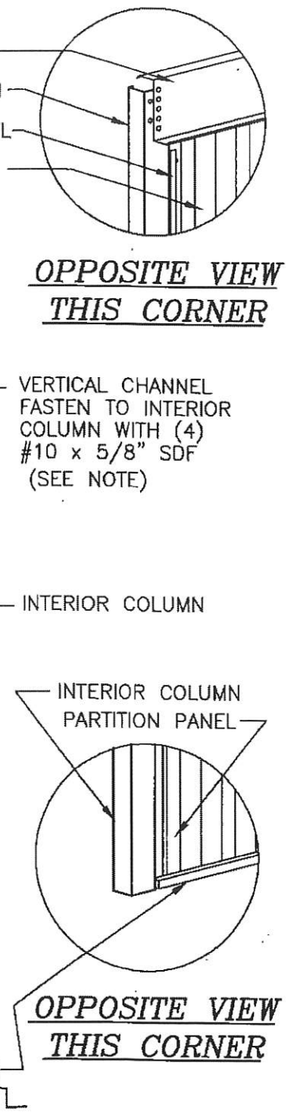
OPPOSITE VIEW THIS CORNER



OPPOSITE VIEW THIS CORNER



SIDE VIEW



OPPOSITE VIEW THIS CORNER

NOTE:
THE FOUR (4) FASTENERS FOR ATTACHING PARTITION PANELS TO INTERIOR COLUMNS ARE INSTALLED AT THE TOP, BOTTOM AND AT THE 1/3 POINTS NOT TO EXCEED A 3'-0" VERTICAL SPACING BETWEEN FASTENERS.

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELPH

REVISION 7	REVISED DIRECTION OF MID TOP CHANNEL	3/17/04	JCM
REVISION 6	REVISED INTERIOR COLUMNS	8/29/02	BAM
REVISION 5	ADDED TOP CHANNEL AT PANELS OVER 9'-0"	2/7/02	BDL
REVISION 4	ADDED NOTE FOR INTERIOR COLUMNS	3/30/01	TLR
REVISION 3	GENERAL REVISIONS	3-24-99	FOX
REVISION 2	CORRECT VC	6/23/98	CJG
REVISION 1		6/4/98	KLH
REVISIONS		DATE	BY

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE:
Partition - Interior Column to Interior Column

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J Pope		ERC201X
SCALE: NTS	DATE: 6/20/94	

BRACE "ZEE"
...FASTEN TO WALL COLUMN w/(1) 3/8"ø x 3/4" BOLT, NUT, STAR WASHER & FLAT WASHER EACH FLANGE...FASTEN TO HEADER w/(1) #12 x 7/8" SDF...

TOP CHANNEL TC-119.5
SECURE TO TOP OF DOOR MOUNTING PLATE w/(1) #10 x 5/8" SDF...FASTEN TO INT. COLUMN w/(2) #10 x 5/8" SDF...

#10 x 5/8" SDF
(4) PER PANEL @ TOP CHANNEL

DOOR MOUNTING PLATE
...FASTEN TO WALL COLUMN w/(2) 3/8"ø x 3/4" BOLT, NUT, STAR WASHER & FLAT WASHER EACH FLANGE

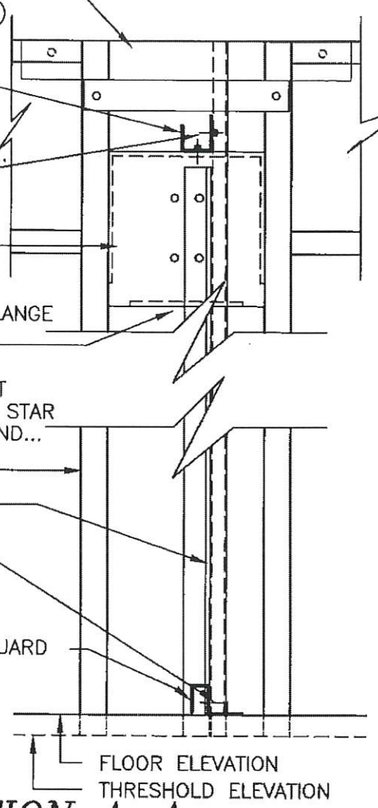
VERTICAL "ZEE"
...FASTEN TO WALL COLUMN BASE AND TO DOOR MOUNTING BRACKET W/(1) 3/8"ø x 3/4" BOLT, NUT, STAR WASHER & FLAT WASHER EACH END...

WALL COLUMN

PARTITION PANEL
(30" COVERAGE)

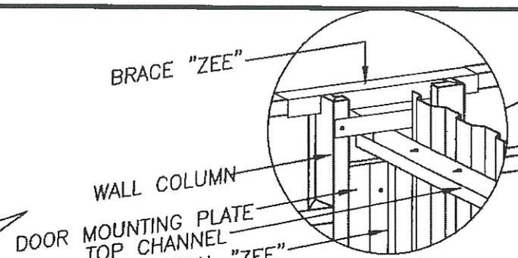
#10 x 5/8" SDF
(4) PER PANEL @ BASE ANGLE

BASE ANGLE BA-112 w/SCREW GUARD
"SHOOT" TO FOUNDATION w/(4) 7/8" POWDER DRIVEN FASTENERS...

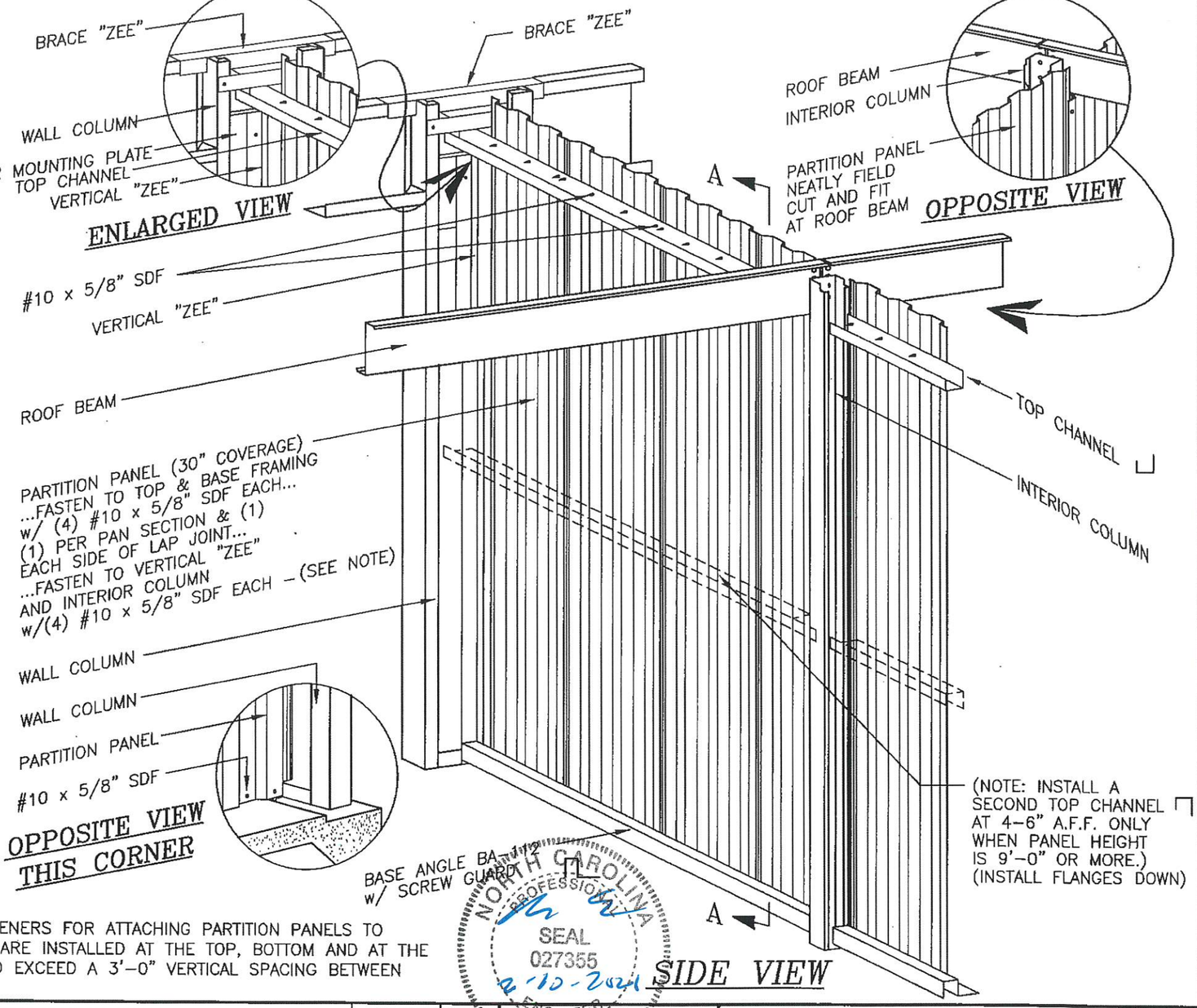


FLOOR ELEVATION
THRESHOLD ELEVATION

SECTION A-A



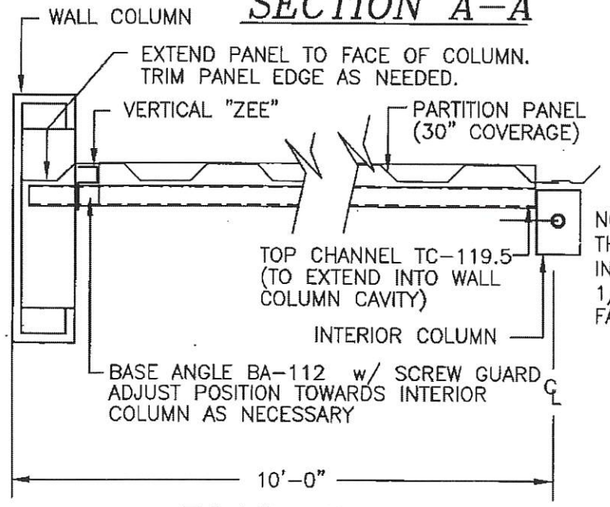
ENLARGED VIEW



OPPOSITE VIEW THIS CORNER

OPPOSITE VIEW

SIDE VIEW



PLAN VIEW

NOTE:
THE FOUR (4) FASTENERS FOR ATTACHING PARTITION PANELS TO INTERIOR COLUMNS ARE INSTALLED AT THE TOP, BOTTOM AND AT THE 1/3 POINTS NOT TO EXCEED A 3'-0" VERTICAL SPACING BETWEEN FASTENERS.

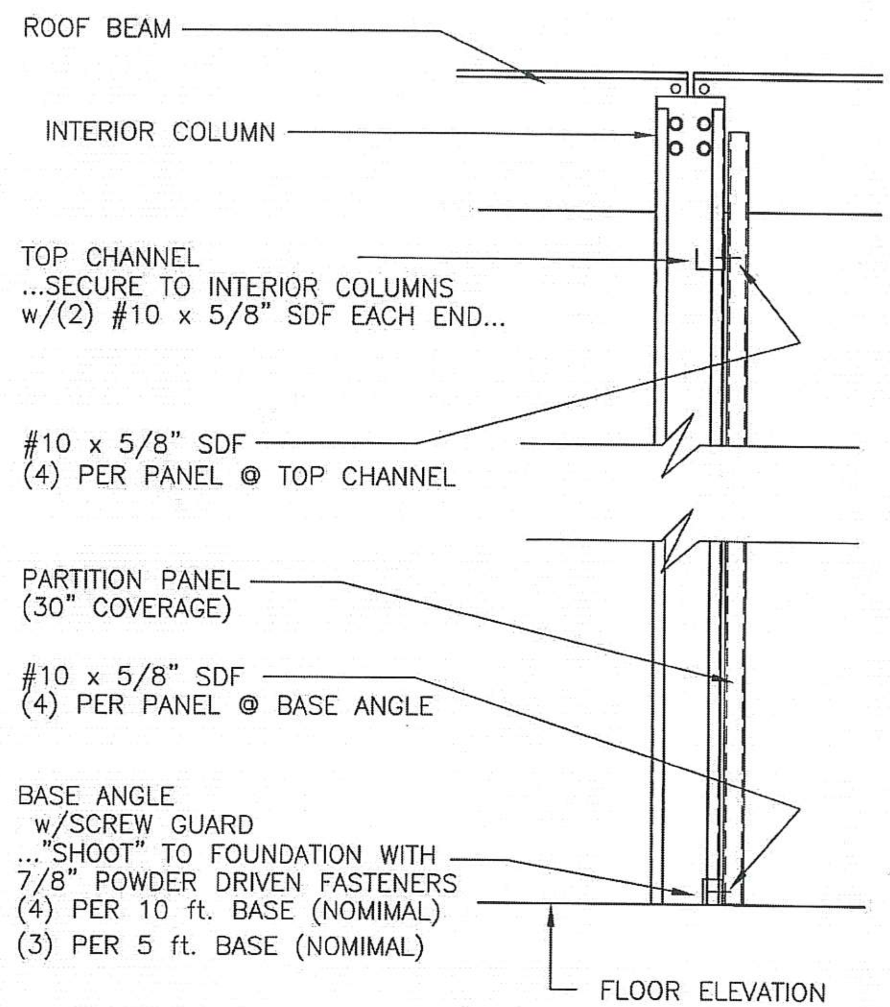
REVISIONS	DATE	BY
REVISED DIRECTION OF MID TOP CHANNEL	3/17/04	JCM
REVISED INTERIOR COLUMNS	8/29/02	BAM
ADDED TOP CHANNEL AT PANELS OVER 9'-0"	2/7/02	BDL
ADDED NOTE FOR INTERIOR COLUMNS	4/2/01	TLR
GENERAL REVISIONS	4/12/99	CWM

NORTH CAROLINA PROFESSIONAL SEAL 027355 2-10-2021 ENGINEER REED N. SELF

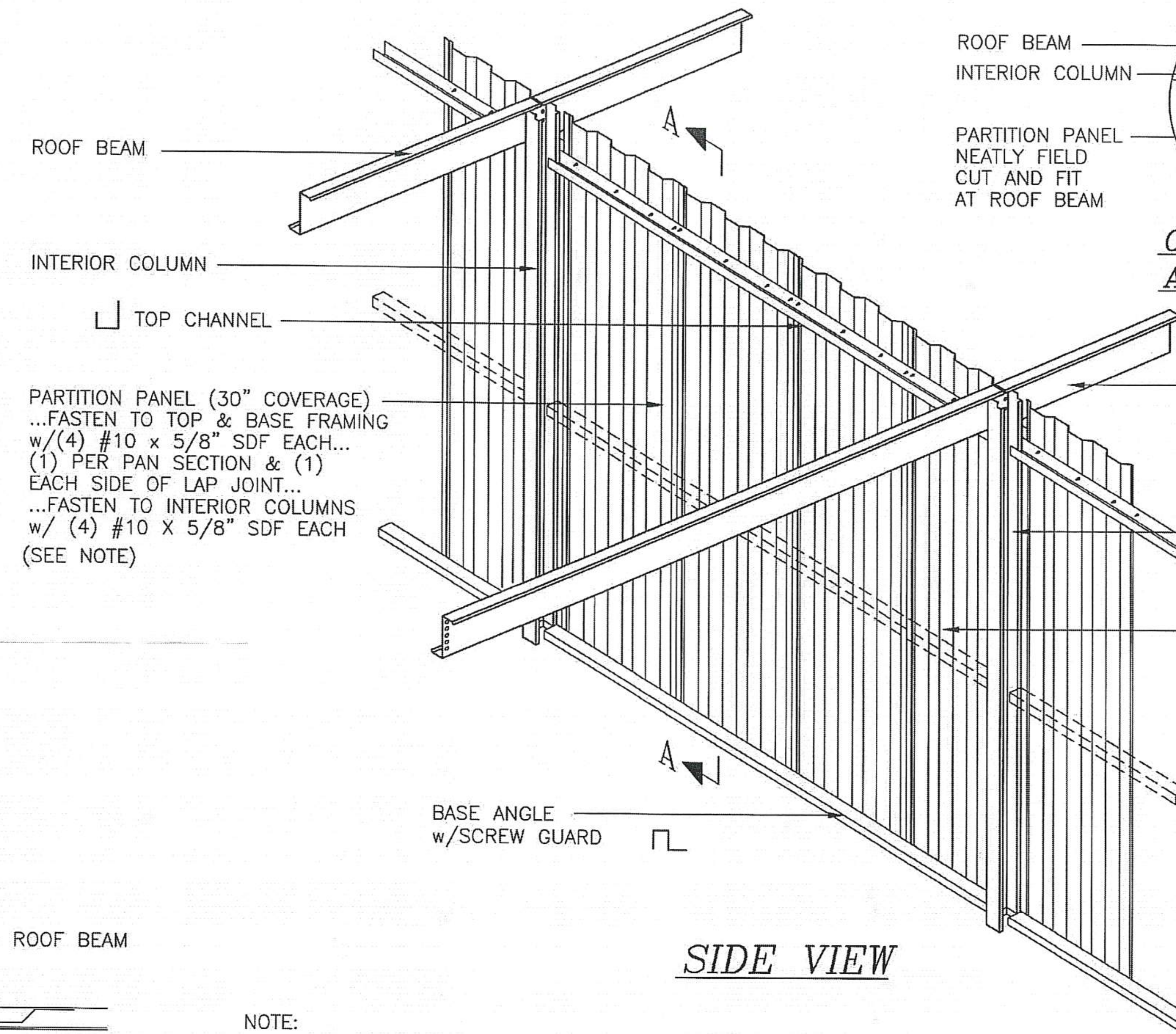
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

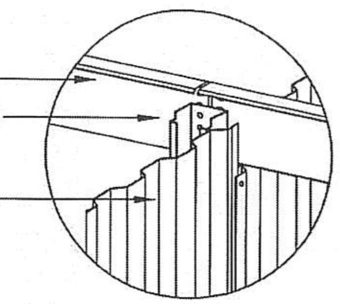
SHEET TITLE:
Partition - Sidewall Column to Interior Column - 10' span

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J Pope		ERC202X
SCALE: NTS	DATE: 6/20/94	



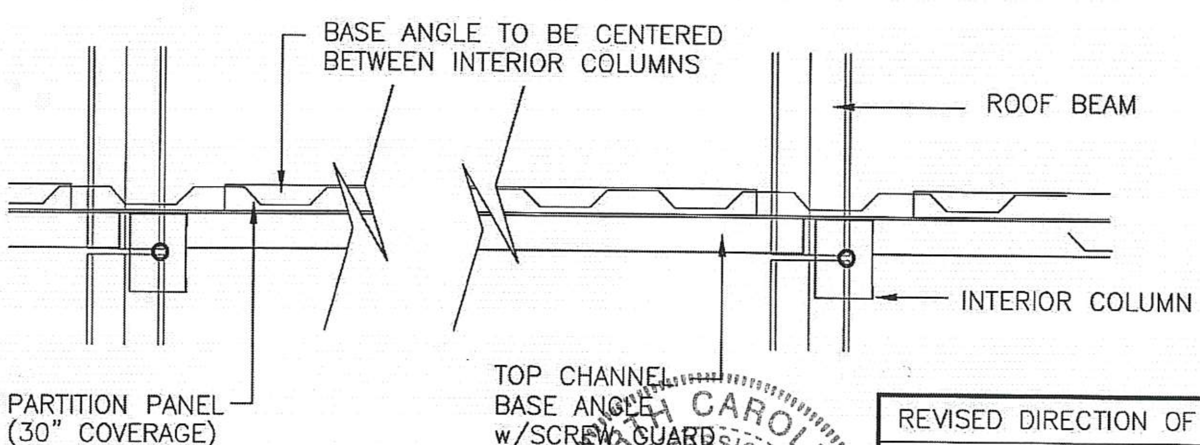
SECTION A–A





OPPOSITE VIEW AT ROOF BEAM

SIDE VIEW



PLAN VIEW

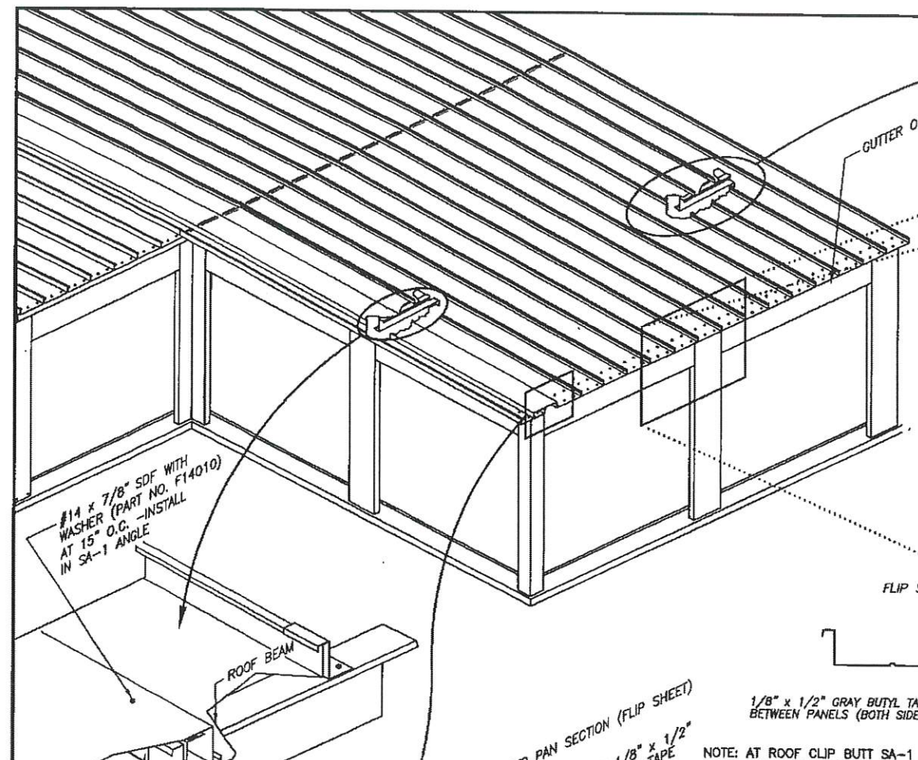
NOTE:
THE FOUR (4) FASTENERS FOR ATTACHING PARTITION PANELS TO INTERIOR COLUMNS ARE INSTALLED AT THE TOP, BOTTOM AND AT THE 1/3 POINTS NOT TO EXCEED A 3'–0" VERTICAL SPACING BETWEEN FASTENERS.

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SE...

REVISIONS	DATE	BY
REVISED DIRECTION OF MID TOP CHANNEL	3/17/04	JCM
REVISED INTERIOR COLUMNS	8/29/02	BAM
ADDED TOP CHANNEL AT PANELS OVER 9'–0"	2/7/02	BDL
ADDED NOTE FOR INTERIOR COLUMNS	4/2/01	TLR
GENERAL REVISIONS	5/7/99	CJG

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654–7813

SHEET TITLE: Partition – Interior Column to Interior Column (all eave heights)		
DRAWN BY: J POPE	APPROVED BY:	DRAWING NUMBER: ERC203X
SCALE: NTS	DATE: 6/22/98	



NOTE: INSURE THAT A 7" LENGTH OF MASTIC TAPE IS ATTACHED TO TOP OF ALL ROOF CLIPS PRIOR TO INSTALLING NEXT ROOF PANEL.

NOTE: NOT ALL ROOF SECTIONS REQUIRE A FLIP SHEET. IF THE ROOF SECTION LENGTH IS ON A 16" INCREMENT THEN A FLIP SHEET IS NOT REQUIRED. IT IS IMPERATIVE TO PROPERLY INSTALL ROOF PANELS AT THESE SECTIONS SO THAT A FLIP SHEET IS NOT REQUIRED. (FOR ROOF INSTALLATION SEE THE GENERAL NOTES THIS PAGE)

GENERAL NOTES:

1. 316 PANELS ARE PACKAGED WITH 14 PANELS PER BUNDLE AND IN LENGTHS FROM 10' TO 60'
2. FULL TRUCKLOAD QUANTITIES OF PANELS WILL REQUIRE AN ALL-TERRAIN FORKLIFT WITH LIFT HEIGHT CAPABILITY OF 13'-6" OR BOOM TRUCK WITH SPREADER BAR FOR OFFLOADING.
3. PANELS STORED ON SITE SHOULD BE KEPT OFF GRADE OR PAVING WITH SKIDS OR DUNNAGE SPACED AT 15' CENTERS. BUNDLES SHOULD BE SLOPED TO ALLOW DRAINAGE OF MOISTURE. TARPING NOT NECESSARY.
4. DURING INSTALLATION, PANEL EAVE LINE WILL RUN TRUE AND STRAIGHT PROVIDING "STARTER PANEL" IS SQUARE WITH BUILDING SIDEWALL. PARTICULAR CARE IS RECOMMENDED IN POSITIONING THE STARTER PANEL IN CONJUNCTION WITH USING A STRINGLINE AT THE SIDEWALL.
5. PANEL COVERAGE SHOULD BE CHECKED AT AT 8' - 12' INTERVALS TO DETERMINE IF PANEL COVERAGE IS EQUAL AT BOTH SIDEWALLS. "CROWING" ONE SIDEWALL IS POSSIBLE BY ALLOWING A LESS TIGHT "FIT" WHILE MAINTAINING A TIGHT "FIT" AT THE OPPOSITE SIDEWALL. THE GAP BETWEEN VERTICAL RIBS SHOULD NOT EXCEED 1/8".
6. AVOID EXCESSIVE FOOT TRAFFIC DURING AND AFTER INSTALLATION FOR ROOF SPAN CONDITIONS GREATER THAN 8'.
7. BROOM SWEEP ROOF AFTER INSTALLATION TO REMOVE ALL METAL DEBRIS INCLUDING FASTENER DRILLINGS.

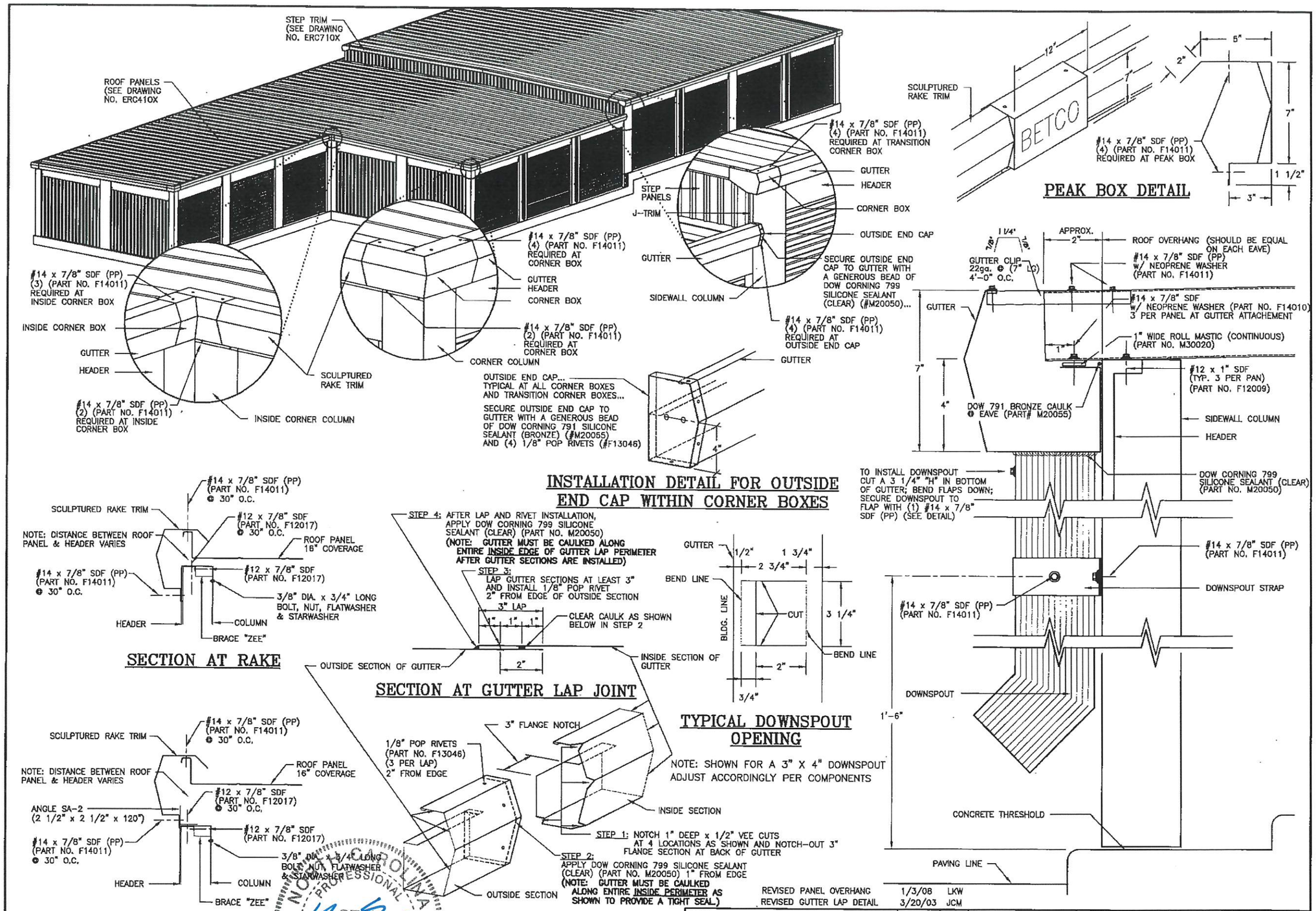
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF 2/10/2021

REVISIONS	DATE	BY
REVISED CLIP SCREWS FOR INSULATION THICKNESS	11/9/11	JCM
REVISED ATTACHMENT DIMENSIONS AT EAVES	7/15/08	BDL

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE: *Roof & Roof Clip Details*

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J. MORRISON		ERC410XFL
SCALE: NTS	DATE: 1/10/07	



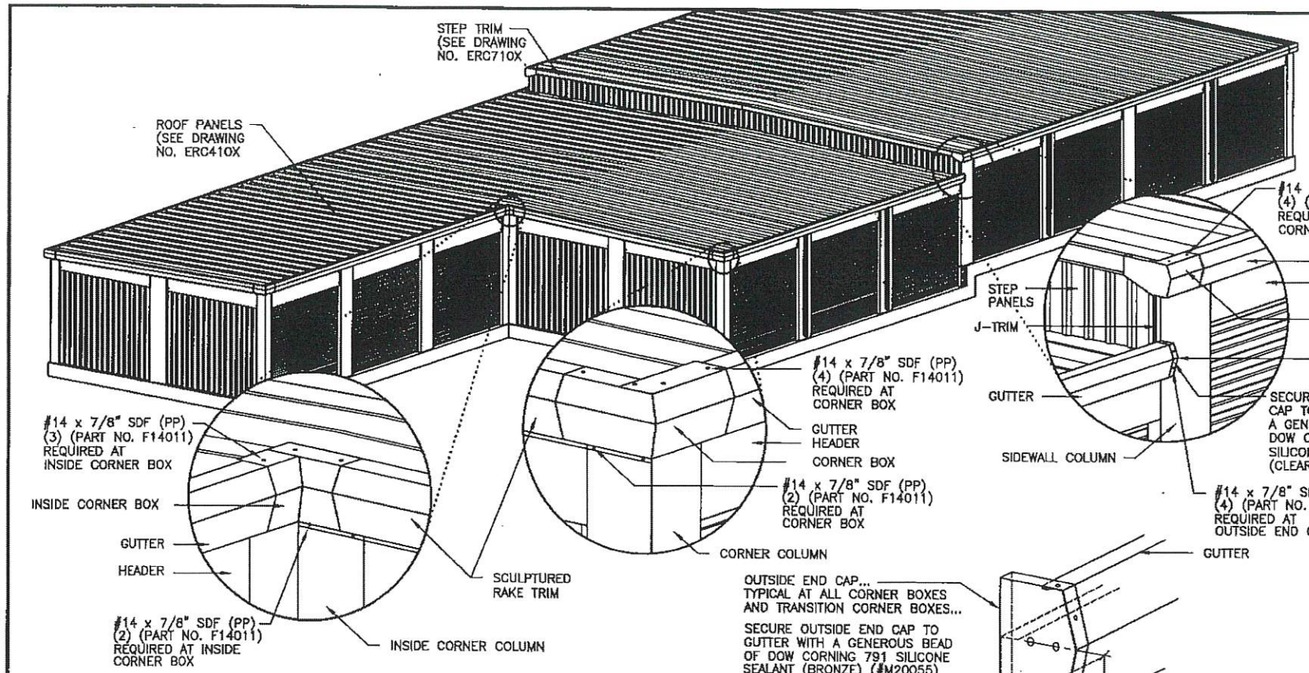
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF 7-30-2008

REVISIONS	DATE	BY
REVISED PANEL OVERHANG	1/3/08	LKW
REVISED GUTTER LAP DETAIL	3/20/03	JCM
REVISED FASTENER SIZE	1/15/03	JCM
REVISED GUTTER JOINT DETAIL	10/9/02	JCM
CHANGED INSIDE END CAP TO OUTSIDE END CAP	12/13/00	BDL
REVISED DOWNSPOUTS	07/10/00	JCM
GENERAL REVISIONS	03/19/99	FOX

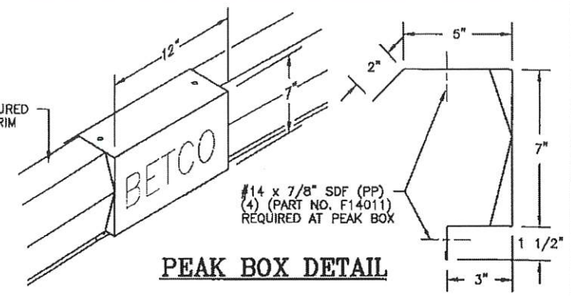
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE: *Sculptured Rake Trim, Extended Gutters and Downspouts*

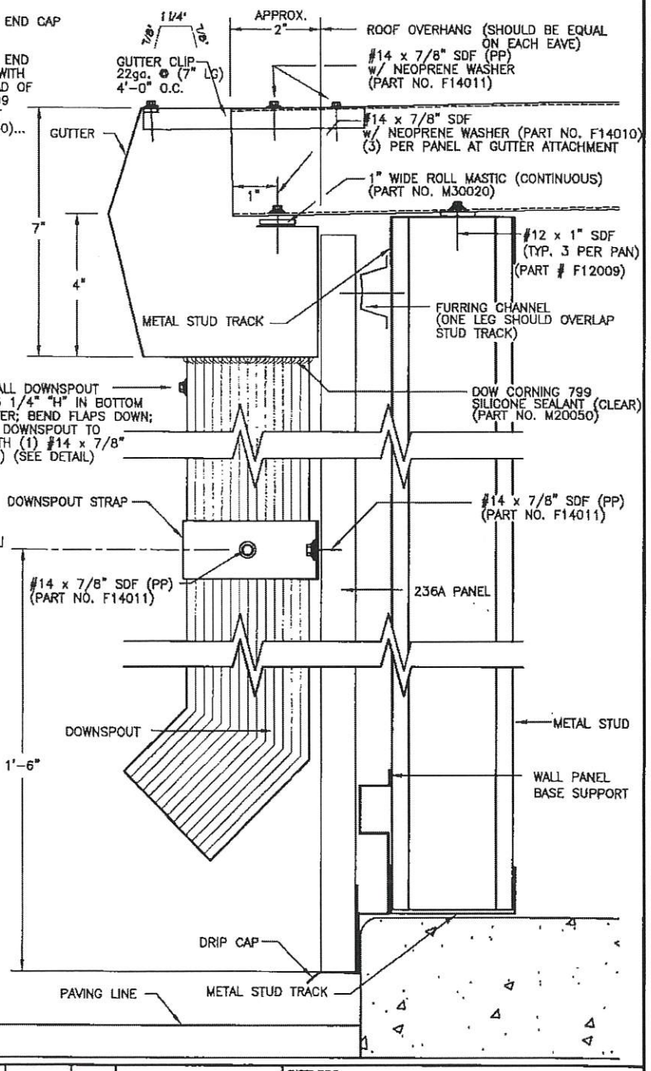
DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
CJG		ERC505X
SCALE: NTS	DATE: 4/7/98	

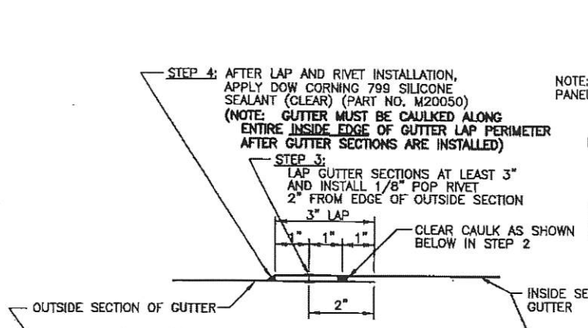


INSTALLATION DETAIL FOR OUTSIDE END CAP WITHIN CORNER BOXES

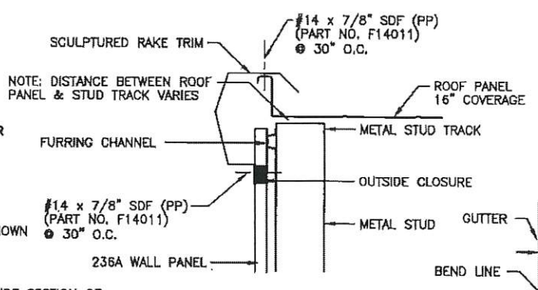


PEAK BOX DETAIL

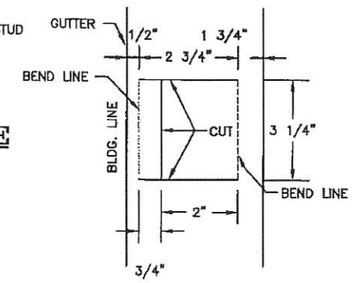




SECTION AT GUTTER LAP JOINT

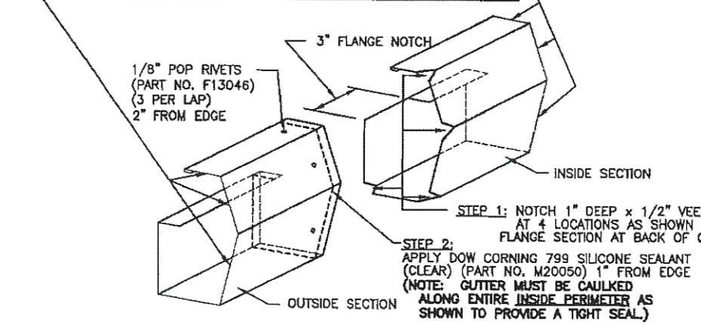


SECTION AT RAKE AT STUDWALL



TYPICAL DOWNSPOUT OPENING

NOTE: SHOWN FOR A 3" X 4" DOWNSPOUT ADJUST ACCORDINGLY PER COMPONENTS



TYPICAL GUTTER LAP JOINT

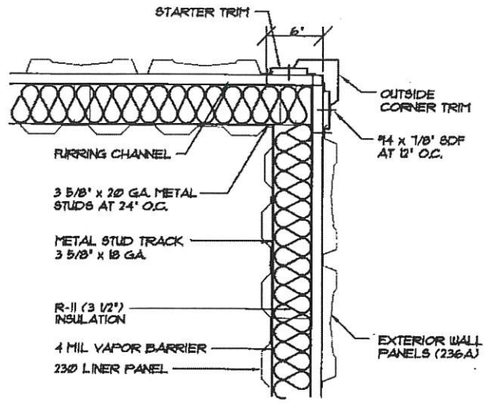
NORTH CAROLINA PROFESSIONAL SEAL 027353 ENGINEER REED N. SELF 2/2/2021

REVISIONS	DATE	BY
REVISED PANEL OVERHANG	1/3/08	LKW
ADDED RAKE AT STUDWALL DETAIL	1/16/04	JCM
REVISED GUTTER LAP DETAIL	3/20/03	JCM
REVISED FASTENER SIZE	1/15/03	JCM
REVISED GUTTER JOINT DETAIL	10/8/02	JCM
REVISED STUDWALL NOTES	8/29/02	BAM
CHANGED INSIDE END CAP TO OUTSIDE END CAP	12/13/00	BDL

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE: *Sculptured Rake Trim, Extended Gutters and Downspouts at Studwall*

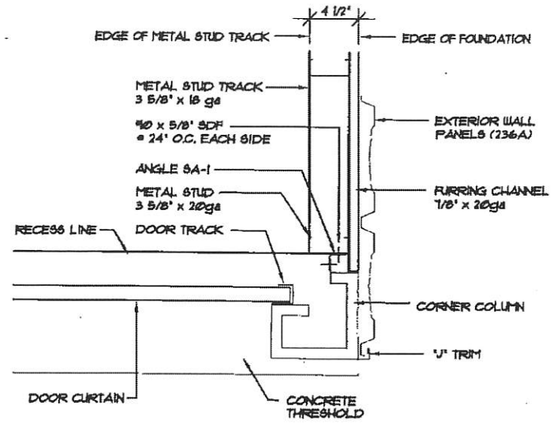
DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
CJG		ERC506X
SCALE: NTS	DATE: 4/7/98	



INSULATED STUDWALL CORNER DETAIL

A/600

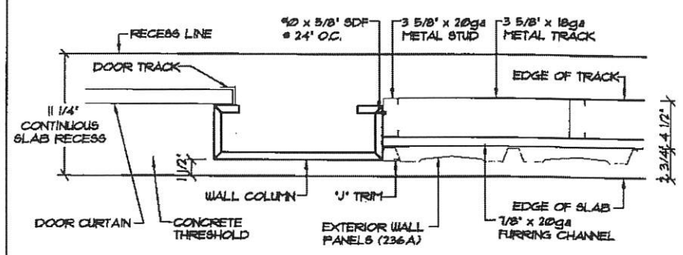
NOT TO SCALE



STUDWALL CONSTRUCTION @ CORNER COLUMN

C/600

NOT TO SCALE

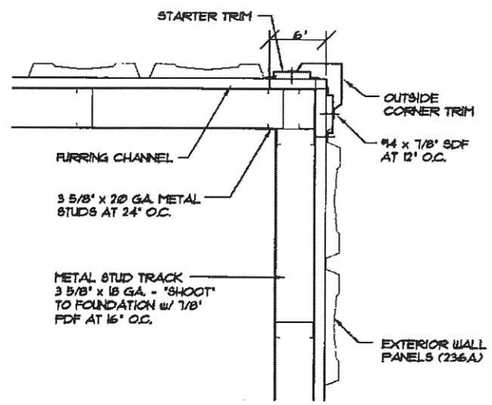


*NOTE: WALL PANELS AND "J" TRIM MUST LINE UP WITH OUTSIDE EDGE OF WALL COLUMN

STUDWALL CONSTRUCTION @ WALL COLUMN IN RECESS

E/600

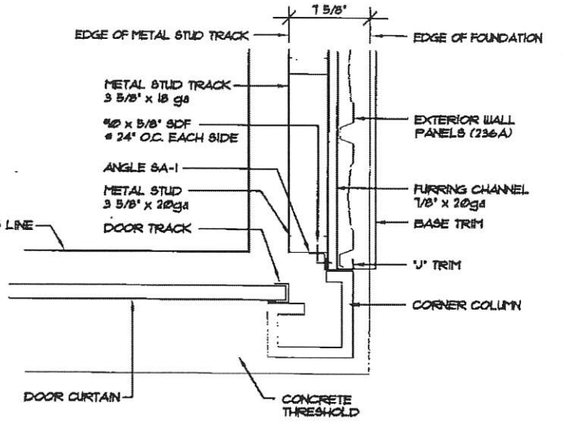
NOT TO SCALE



UNINSULATED STUDWALL CORNER DETAIL

B/600

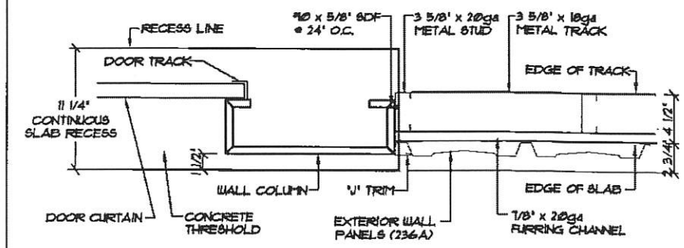
NOT TO SCALE



STUDWALL CONSTRUCTION @ CORNER COLUMN W/ THRESHOLD

D/600

NOT TO SCALE



*NOTE: WALL PANELS AND "J" TRIM MUST LINE UP WITH OUTSIDE EDGE OF WALL COLUMN

STUDWALL CONSTRUCTION @ WALL COLUMN

F/600

NOT TO SCALE

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER FRED N. SELF

2-1-02

REVISIONS	DATE	BY
⚠ REVISED STUD SIZE	8/29/02	BAM

BETCO
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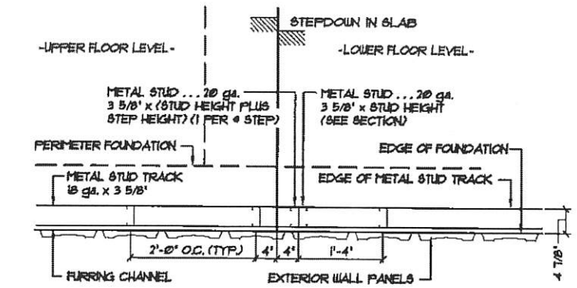
STATESVILLE, NC 28625
(800)654-7813

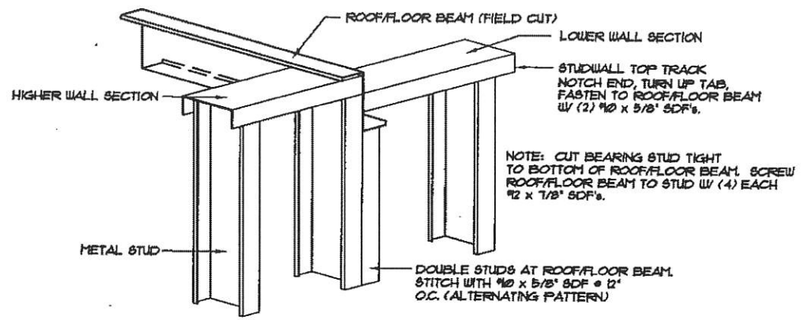
SHEET TITLE: *Studwall Details*

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
CJG		ERC600X
SCALE: NTS	DATE: 4/14/00	



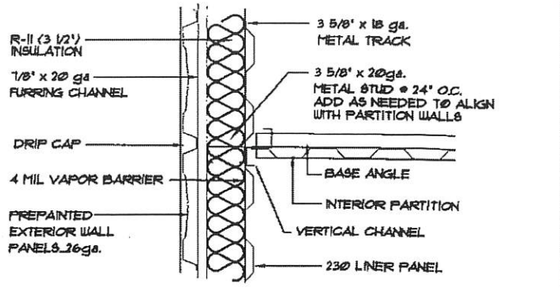
A/601 PLAN VIEW OF STUDWALL @ FLOOR STEPDOWN

NOT TO SCALE



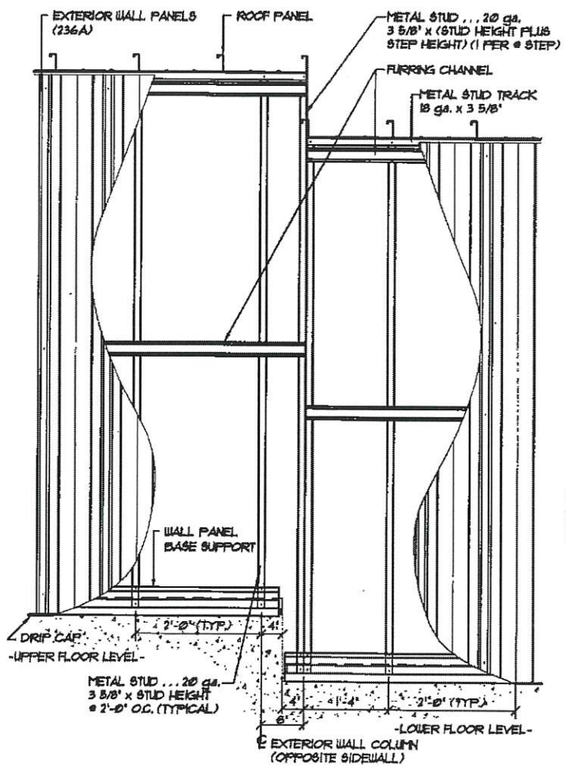
C/601 ROOF/FLOOR BEAM @ STUDWALL

NOT TO SCALE



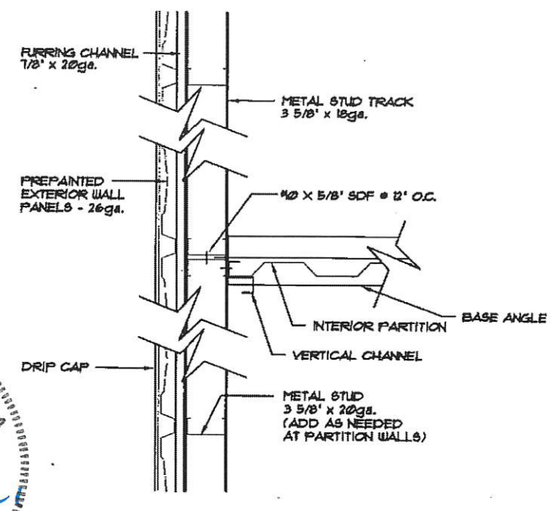
E/601 PARTITION INSTALLATION AT INSULATED EXTERIOR STUDWALL

NOT TO SCALE



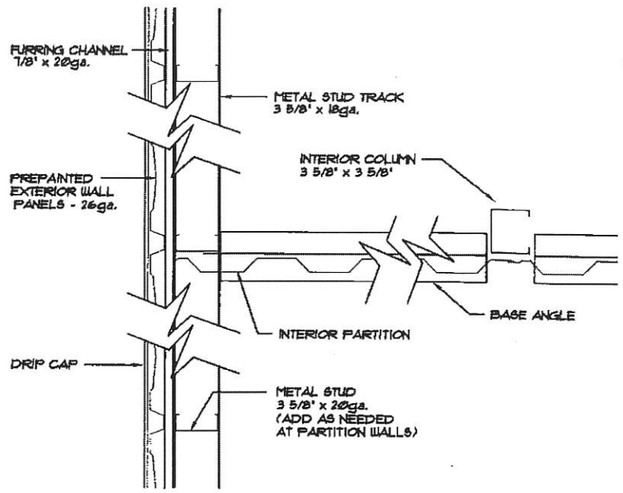
B/601 ELEVATION @ STUDWALL AND STEPDOWN

NOT TO SCALE



D/601 PARTITION INSTALLATION UNDER ROOF BEAM

NOT TO SCALE



F/601 PARTITION INSTALLATION AT STUDWALL

NOT TO SCALE

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELL

2-10-02

REVISIONS	DATE	BY
3 REVISED C/601 TO INCLUDE FLOOR BEAM	5/1/03	JCM
2 REVISED C/601 TO INCLUDE FLOOR BEAM	4/17/03	JCM
1 REVISED STUD SIZE	8/29/02	BAM

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228 COMMERCE BLVD.
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(800)654-7813

SHEET TITLE: Studwall Details

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
CJG		ERC601X
SCALE: NTS	DATE: 4/14/00	

① EXTERIOR STUDWALL CONSTRUCTION • FLAT SLAB: (SEE ERC630X)

–3 5/8" METAL STUDS @ 24" O.C. – 20ga
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 18ga. – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX
–2 OR 3 ROWS CONTINUOUS 20ga. FURRING CHANNELS (NOTE #2)
–PRE–PAINTED EXTERIOR 236A WALL PANELS
–WALL PANEL BASE SUPPORT
–DRIP CAP (#T60120)
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
*230 LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8" SDF's)
*J–TRIM @ TOP OF LINER PANELS
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

② EXTERIOR STUDWALL CONSTRUCTION • RECESS: (SEE ERC630X)

–3 5/8" METAL STUDS @ 24" O.C. – 20ga
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 18ga. – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX
–3 OR 4 ROWS CONTINUOUS 20ga. FURRING CHANNELS (NOTE #2)
–PRE–PAINTED EXTERIOR 236A WALL PANELS
–BASE TRIM (#T60593)
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
*230 LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8" SDF's)
*J–TRIM @ TOP OF LINER PANELS
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

③ INSULATED LOAD BEARING STUDWALL :

–3 5/8" METAL STUDS @ 24" O.C. – 20ga
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 18ga. – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX
–3 1/2" THICK FIBERGLASS INSULATION
–4 MIL POLYETHYLENE VAPOR BARRIER
–230 LINER PANELS (EACH SIDE–ATTACH EACH PANEL TO TOP & BASE TRACK WITH 4 EACH #10 x 5/8" SDF's)
–J–TRIM @ TOP OF LINER PANELS
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

④ INSULATED NON-LOAD BEARING STUDWALL :

–3 5/8" METAL STUDS @ 24" O.C. – 20ga
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 20ga. (ATTACH BASE TRACK TO CONCRETE FLOOR SLAB WITH 7/8" PDF's @ 24" O.C)
–3 1/2" THICK FIBERGLASS INSULATION
–4 MIL POLYETHYLENE VAPOR BARRIER
–230 LINER PANELS (EACH SIDE–ATTACH EACH PANEL TO TOP & BASE TRACK WITH 4 EACH #10 x 5/8" SDF's)
–J–TRIM @ TOP OF LINER PANELS
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

⑤ EXTERIOR STUDWALL CONSTRUCTION • HVAC INSET/ ALCOVE: . . . (ERC 603X & 604X)

–3 5/8" METAL STUDS @ 24" O.C. – 20ga
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 18ga. – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX
–3 OR 4 ROWS CONTINUOUS 20ga. FURRING CHANNELS (NOTE #2)
–PRE–PAINTED EXTERIOR 236A WALL PANELS
–DRIP CAP (#T50032)
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
*230 LINER PANELS @ INTERIOR (ATTACH EACH PANEL TO BASE & TOP TRACK WITH 4 EACH #10 x 5/8" SDF's)
*J–TRIM @ TOP OF LINER PANELS
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

⑥ FIRE RESISTANT PARTITION . . . 1 HOUR RATED UL • U465. . . (NON-LOAD BEARING)

ONE HOUR FIREWALL CONSTRUCTION:
–3 5/8" METAL STUDS @ 24" O.C. – 20ga.
–3 5/8" CONTINUOUS FLOOR and CEILING TRACK – 20ga (TOP TRACK MUST FOLLOW SLOPE OF ROOF DECK) (SECURE BOTTOM TRACK W/ 7/8" PDF'S AT 24" O.C.)
–5/8" GYPSUM BOARD (X–RATED) EACH SIDE IT MUST BE PLACED SUCH THAT ALL JOINTS ARE VERTICAL.
–GYPSUM BOARD SHALL BE ATTACHED TO STUDS, FLOOR AND CEILING TRACK USING TYPE "S" SELF–TAPPING SCREWS ALONG EDGES OF BOARD SPACED 8" O.C. AND 12" O.C. IN THE FIELD.
–VINYL OR CASE–IN, DRY OR PRE–MIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS SCREW–HEADS. PERFORATED PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

⑦ FIRE RESISTANT PARTITION . . . 1 HOUR RATED UL • U425. . . (LOAD BEARING)

ONE HOUR FIREWALL CONSTRUCTION:
–3 5/8" METAL STUDS @ 24" O.C. – 20ga.
–3 5/8" CONTINUOUS FLOOR & CEILING TRACK – 18ga – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX (TOP TRACK MUST FOLLOW SLOPE OF ROOF DECK)
–5/8" GYPSUM BOARD (X–RATED) EACH SIDE IT MUST BE PLACED SUCH THAT ALL JOINTS ARE VERTICAL.
–GYPSUM BOARD SHALL BE ATTACHED TO STUDS, FLOOR AND CEILING TRACK USING TYPE "S" SELF–TAPPING SCREWS ALONG EDGES OF BOARD SPACED 8" O.C. AND 12" O.C. IN THE FIELD.
–VINYL OR CASE–IN, DRY OR PRE–MIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS SCREW–HEADS. PERFORATED PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

⑧ EXTERIOR FIRE RESISTANT PARTITION . . . . -UL • U423. . (1 HOUR RATED) (LOAD BEARING)

ONE HOUR FIREWALL CONSTRUCTION:
–3 5/8" METAL STUDS @ 24" O.C. – 20ga.
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 18ga. – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX (TOP TRACK MUST FOLLOW SLOPE OF ROOF DECK)
–2 OR 3 ROWS CONTINUOUS 20ga. FURRING CHANNELS (NOTE #2)
–PRE–PAINTED EXTERIOR 236A WALL PANELS
–WALL PANEL BASE SUPPORT
–DRIP CAP (#T60120)
–1 LAYER 5/8" GYPSUM BOARD (X–RATED) EACH SIDE IT MUST BE PLACED SUCH THAT ALL JOINTS ARE VERTICAL.
–GYPSUM BOARD SHALL BE ATTACHED TO STUDS, FLOOR AND CEILING TRACK USING TYPE "S" SELF–TAPPING SCREWS ALONG EDGES OF BOARD SPACED 8" O.C. AND 12" O.C. IN THE FIELD.
–VINYL OR CASE–IN, DRY OR PRE–MIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS SCREW–HEADS. PERFORATED PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

⑨ EXTERIOR FIRE RESISTANT PARTITIONS • RECESS: UL • U423. . . (1 HOUR RATED) (LOAD BEARING)

ONE HOUR FIREWALL CONSTRUCTION:
–3 5/8" METAL STUDS @ 24" O.C. – 20ga.
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 18ga. – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX (TOP TRACK MUST FOLLOW SLOPE OF ROOF DECK)
–3 OR 4 ROWS CONTINUOUS 20ga. FURRING CHANNELS (NOTE #2)
–PRE–PAINTED EXTERIOR 236A WALL PANELS
–DRIP CAP (#T60593)
–1 LAYER 5/8" GYPSUM BOARD (X–RATED) EACH SIDE IT MUST BE PLACED SUCH THAT ALL JOINTS ARE VERTICAL.
–GYPSUM BOARD SHALL BE ATTACHED TO STUDS, FLOOR AND CEILING TRACK USING TYPE "S" SELF–TAPPING SCREWS ALONG EDGES OF BOARD SPACED 8" O.C. AND 12" O.C. IN THE FIELD.
–VINYL OR CASE–IN, DRY OR PRE–MIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS SCREW–HEADS. PERFORATED PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

⑩ EXTERIOR FIRE RESISTANT PARTITION • HVAC: INSET/ALCOVE UL • 423 . (1 HOUR RATED) (LOAD BEARING) (ERC 620X & 621X)

ONE HOUR FIREWALL CONSTRUCTION:
–3 5/8" METAL STUDS @ 24" O.C. – 20ga.
–3 5/8" CONTINUOUS FLOOR AND CEILING TRACK – 18ga. – FASTEN w/ 3/8" x 3" WEDGE ANCHOR (2" MIN. EMBEDDMENT) @ 30" O.C. MAX (TOP TRACK MUST FOLLOW SLOPE OF ROOF DECK)
–3 OR 4 ROWS CONTINUOUS 20ga. FURRING CHANNELS (NOTE #2)
–PRE–PAINTED EXTERIOR 236A WALL PANELS
–DRIP CAP (#T50032)
–1 LAYER 5/8" GYPSUM BOARD (X–RATED) EACH SIDE IT MUST BE PLACED SUCH THAT ALL JOINTS ARE VERTICAL.
–GYPSUM BOARD SHALL BE ATTACHED TO STUDS, FLOOR AND CEILING TRACK USING TYPE "S" SELF–TAPPING SCREWS ALONG EDGES OF BOARD SPACED 8" O.C. AND 12" O.C. IN THE FIELD.
–VINYL OR CASE–IN, DRY OR PRE–MIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS SCREW–HEADS. PERFORATED PAPER TAPE, 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.
*3 1/2" THICK FIBERGLASS INSULATION
*4 MIL POLYETHYLENE VAPOR BARRIER
–SEE NOTE #4 FOR GENERAL STUDWALL CONSTRUCTION NOTES.

NOTE #1: INTENTIONALLY BLANK.

NOTE #2: AS PER WALL CONSTRUCTION NOTES, EXTERIOR STUDWALLS ARE CONSTRUCTED WITH "X" OR "Y" ROWS OF FURRING CHANNELS IF WALL IS LESS THAN 9'–10 1/2" HGT. A.F.F., CONSTRUCT WITH "X" ROWS; OTHERWISE USE "Y".

NOTE #3: "*" ON THIS SHEET, REFERS TO THE ADDITIONAL MATERIALS REQUIRED FOR INSULATION OF WALL SYSTEM. NOT ALL WALLS ARE INSULATED. VERIFY WITH FLOOR PLANS. INSTALL INSULATION & RELATED MATERIALS ONLY IN WALLS DESIGNATED WITH AN "*" BESIDE THE DETAIL NUMBER ON THE FLOOR PLAN.

NOTE #4: GENERAL STUDWALL CONSTRUCTION:
A) – ATTACH STUDS WITH #10 X 5/8" SDF'S EACH SIDE OF TRACK (4 PER STUD).
B) – WALLS MUST EXTEND FROM FLOOR TO ROOF DECK AND INTO WALL COLUMN CAVITY.
C) – TOP TRACK MUST FOLLOW SLOPE OF ROOF LINE.

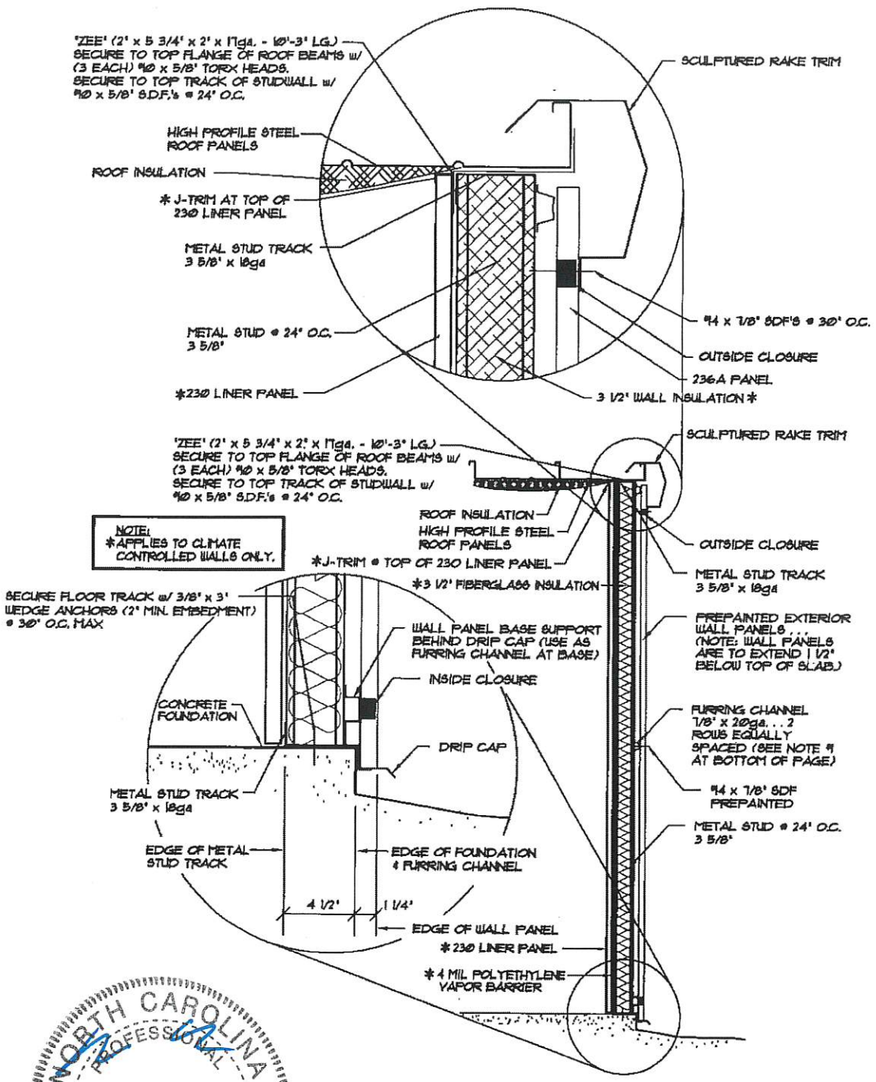
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF 2-10-03

REVISIONS	DATE	BY
REVISED STUD TRACK FASTENERS TO CONCRETE	9/24/10	JCM
REVISED STUD TRACK FASTENERS	1/12/04	JCM
REVISED STUD SIZE	8/29/02	BAM
REVISE LAYERS, GYPSUM BOARD THICKNESS & UL ON NOTES #8, 9, 10	11/16/01	JRB
ADDED ERC 620X & 621X TO NOTE #10	08/28/01	JCM
CHANGED 5/8" TO (2 LAYERS 1/2")	02/21/01	DSF

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654–7813

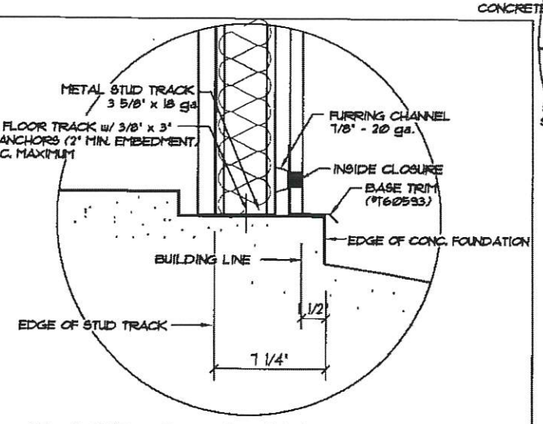
SHEET TITLE: *Studwall Notes*

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
RS		ERC610X
SCALE: NTS	DATE: 11/02/00	

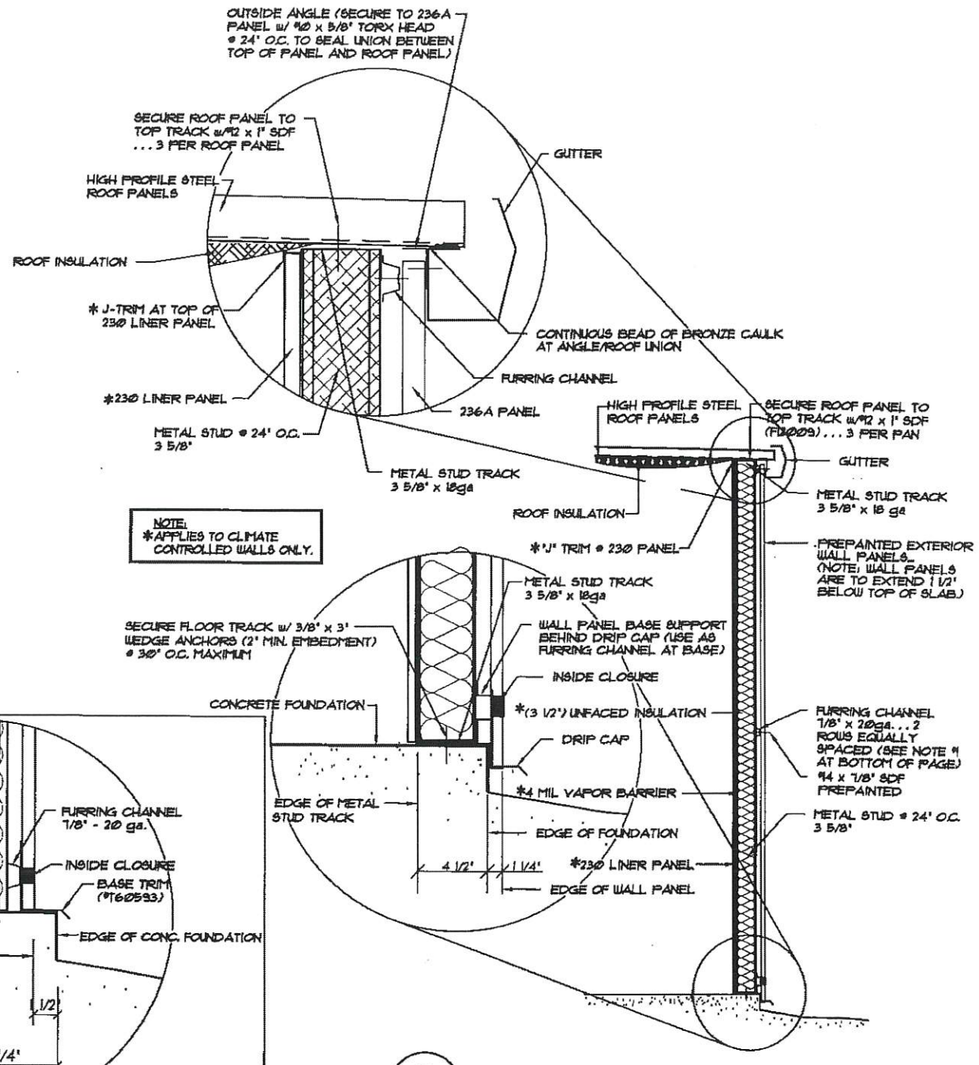


A/630 SECTION AT EXTERIOR STUDWALL ENDWALL

NOT TO SCALE



BASE CONDITION FOR STUDWALL IN RECESS



B/630 SECTION AT EXTERIOR STUDWALL SIDEWALL

NOT TO SCALE

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF

NOTE #1: IF STUDWALL IS GREATER THAN OR EQUAL TO 9'-10 1/2" HGT. 2 EQUALLY SPACED ROWS OF INTERMEDIATE FURRING CHANNELS ARE REQUIRED BETWEEN BASE AND TOP OF STUDWALL.

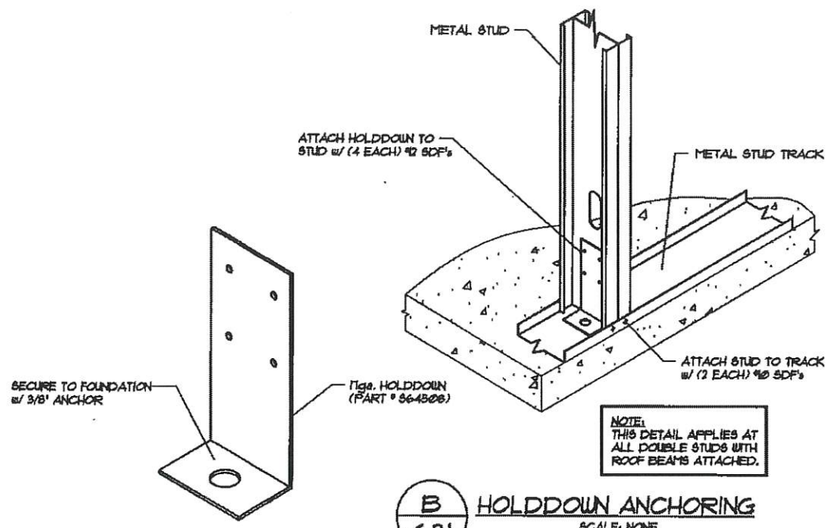
NOTE #2: NOT ALL BUILDINGS HAVE ROOF INSULATION, CHECK CROSS SECTION FOR INSULATION.

REVISIONS	DATE	BY

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

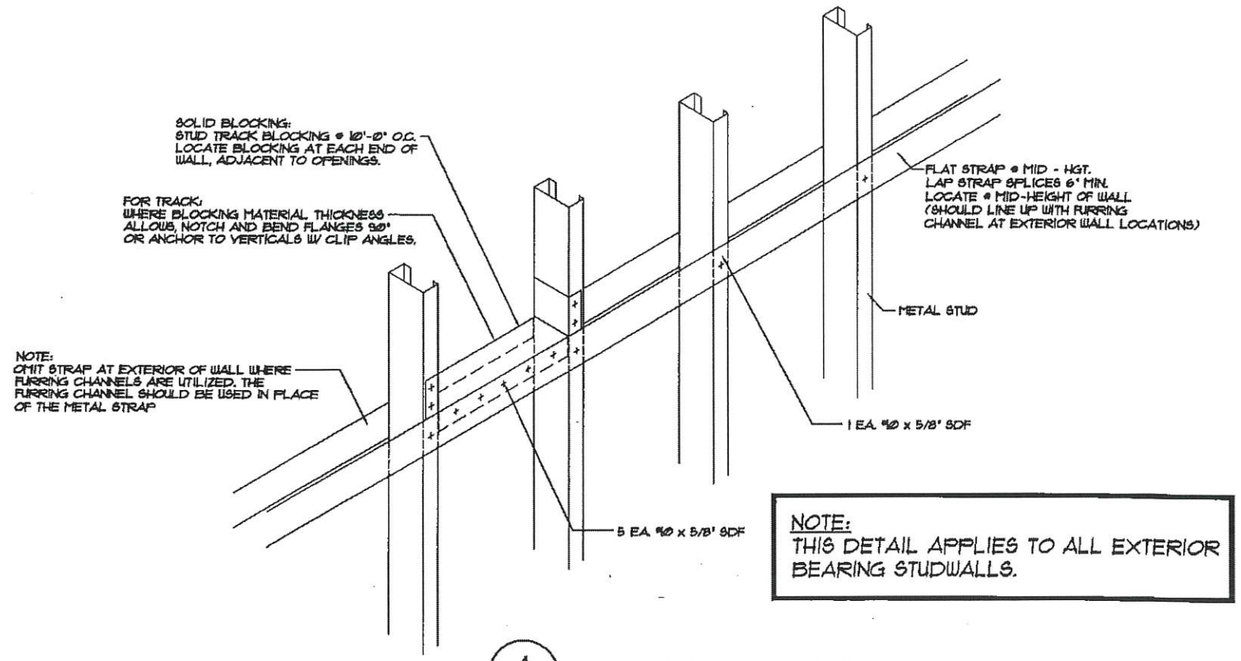
SHEET TITLE: *Studwall Sections*

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
JCM		ERC630X
SCALE: NTS	DATE: 11/8/11	



NOTE:
THIS DETAIL APPLIES AT ALL DOUBLE STUDS WITH ROOF BEAMS ATTACHED.

B / 631 HOLDDOWN ANCHORING
SCALE: NONE



NOTE:
THIS DETAIL APPLIES TO ALL EXTERIOR BEARING STUDWALLS.

A / 631 WALL BLOCKING DETAIL
SCALE: NONE

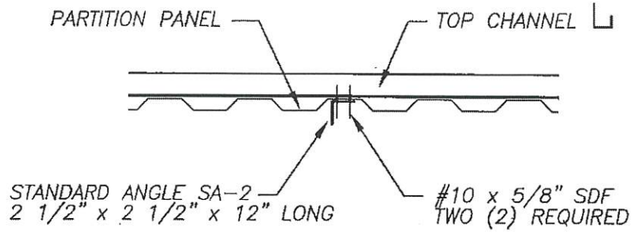
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF

REVISIONS	DATE	BY

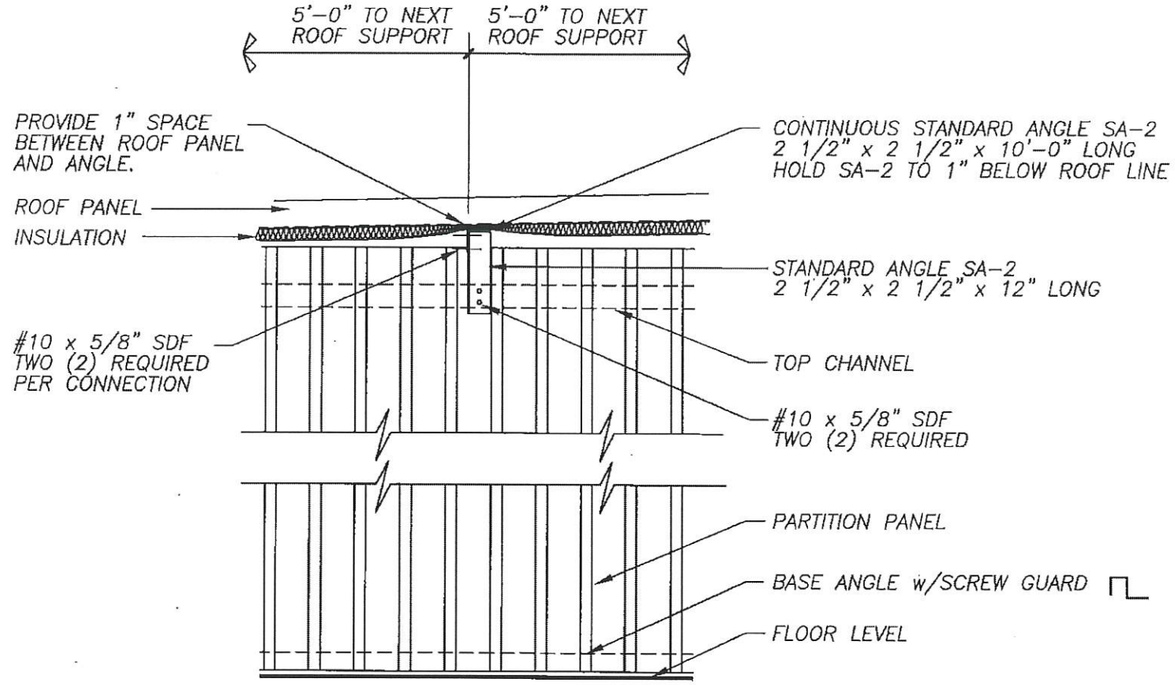
BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE: *Studwall Details*

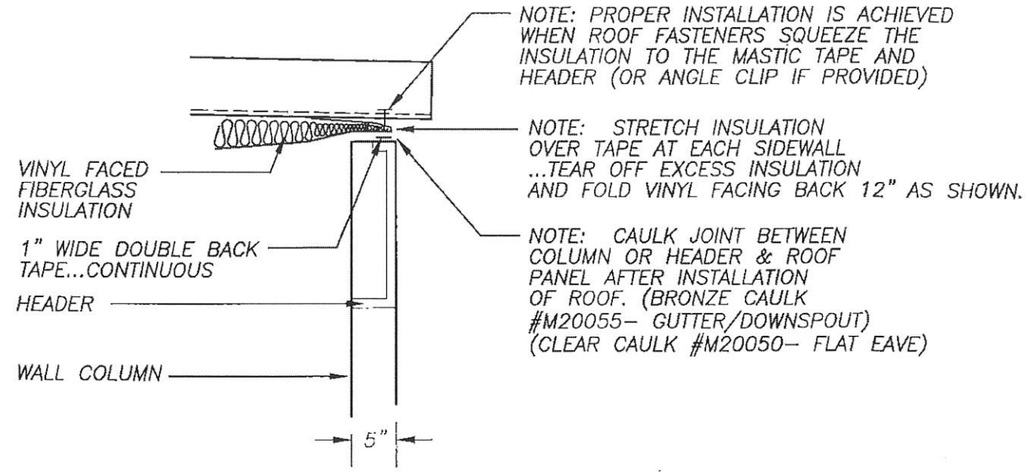
DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
JCM		*ERC631X*
SCALE: NTS	DATE: 11/8/11	



PLAN VIEW



ELEVATION AT INTERMEDIATE INSULATION SUPPORT



INSULATION INSTALLATION @ SIDEWALL

INSULATION INSTALLATION AT END WALL

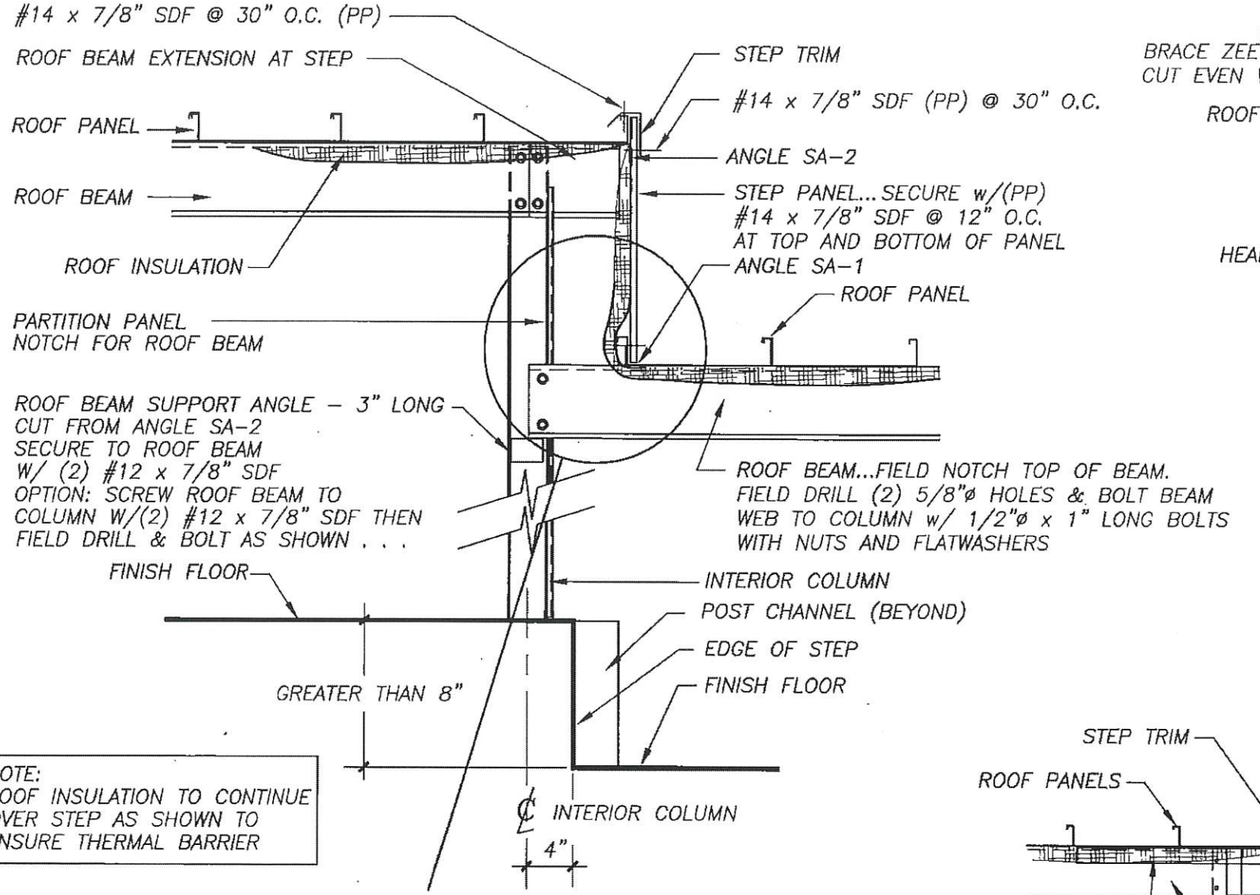
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELF

REVISIONS	DATE	BY
3 ADDED ROOF FASTENER NOTE	4/17/03	JCM
2 REVISED SA-2 GAP	1/14/03	BAM
1 GENERAL REVISIONS	3-8-99	FOX

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

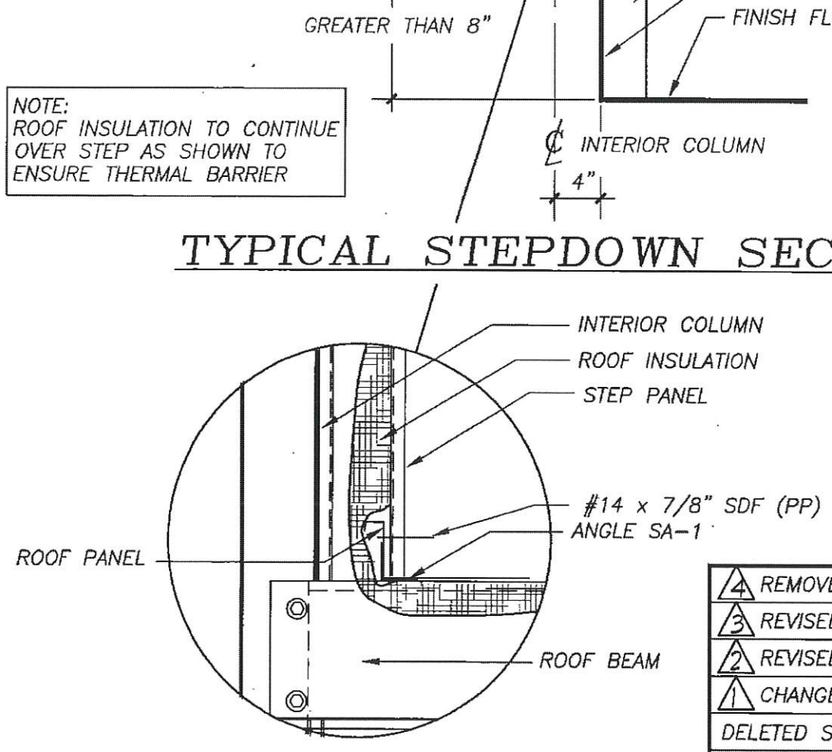
SHEET TITLE: Insulation installation

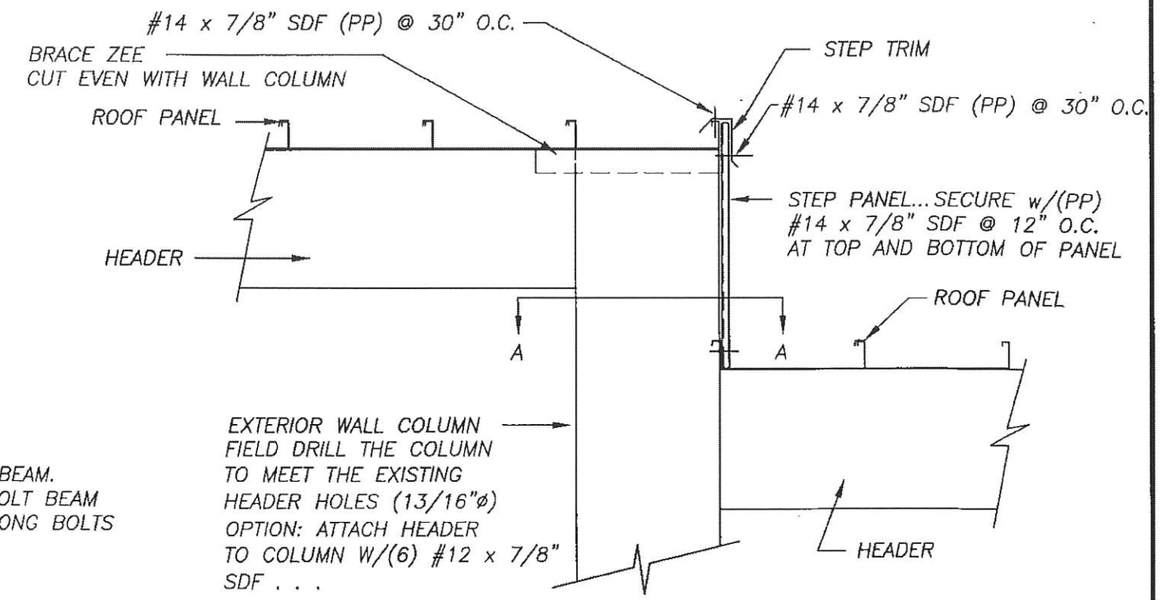
DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J Pope		ERC700X
SCALE: NTS	DATE: 6-27-94	



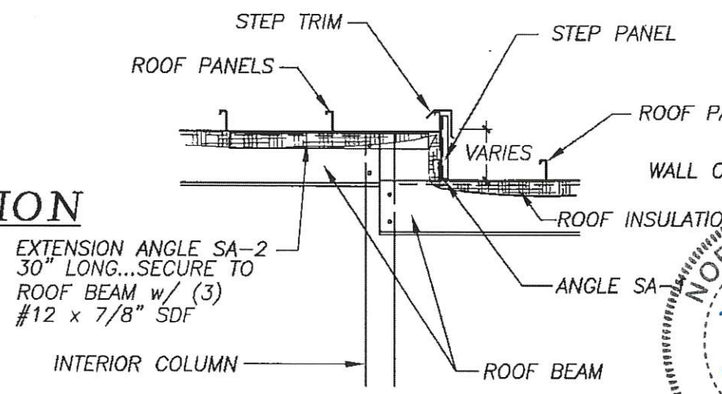
NOTE:
ROOF INSULATION TO CONTINUE OVER STEP AS SHOWN TO ENSURE THERMAL BARRIER

TYPICAL STEPDOWN SECTION

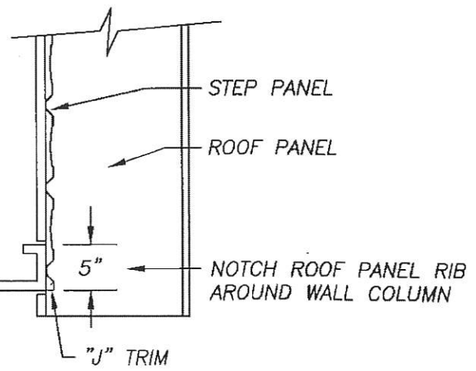




TYPICAL STEPDOWN ELEVATION



DETAIL AT ROOF STEP 8" OR LESS



SECTION A–A

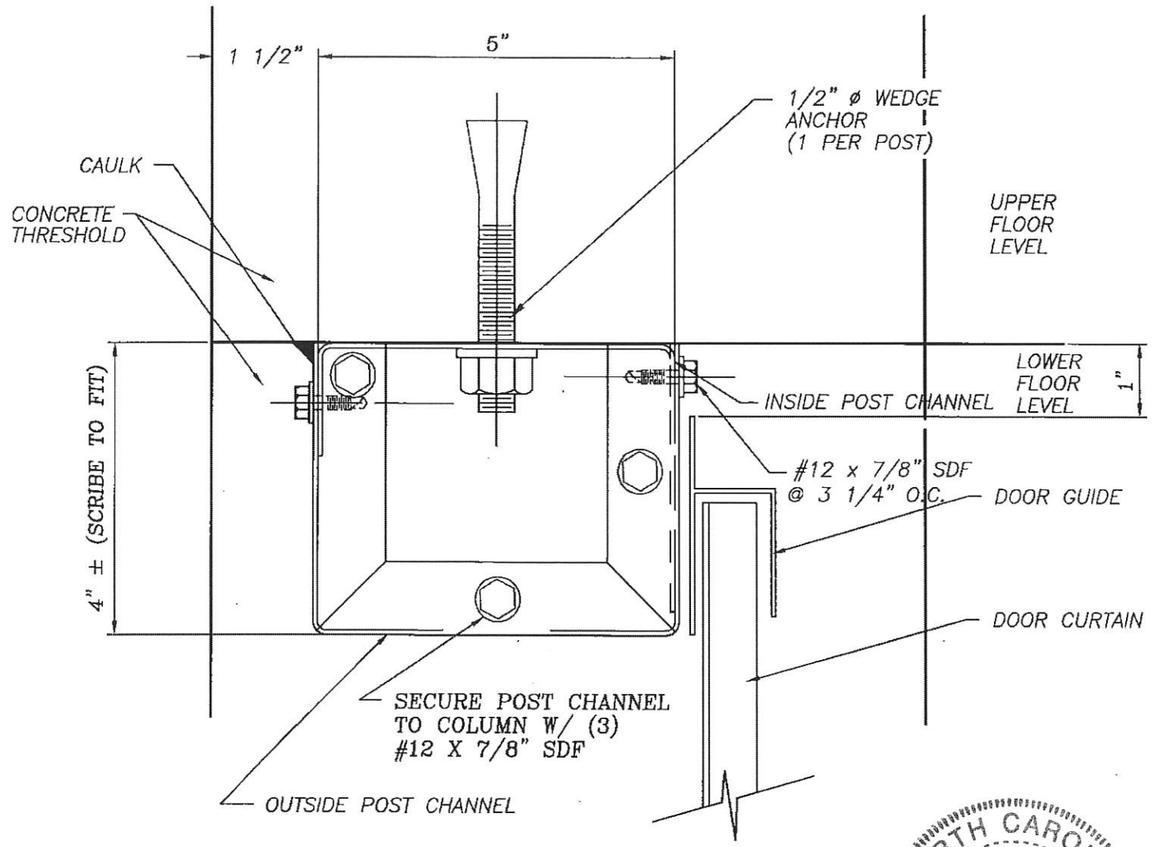
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER FRED N. SELF
2-10-2

REVISIONS	DATE	BY
4 REMOVED FLIPSHEET NOTE	2/16/04	JCM
3 REVISED FASTENER SIZE	1/15/03	JCM
2 REVISED INSULATION TYPE	8/29/02	BAM
1 CHANGED 8" STEP TO 236A PANEL AND	10-9-01	SBJ
DELETED SA-1 AT TYPICAL STEP DOWN SECTION		

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE:
STEPDOWN SECTIONS W/ INSULATION
(Roof and Floor)

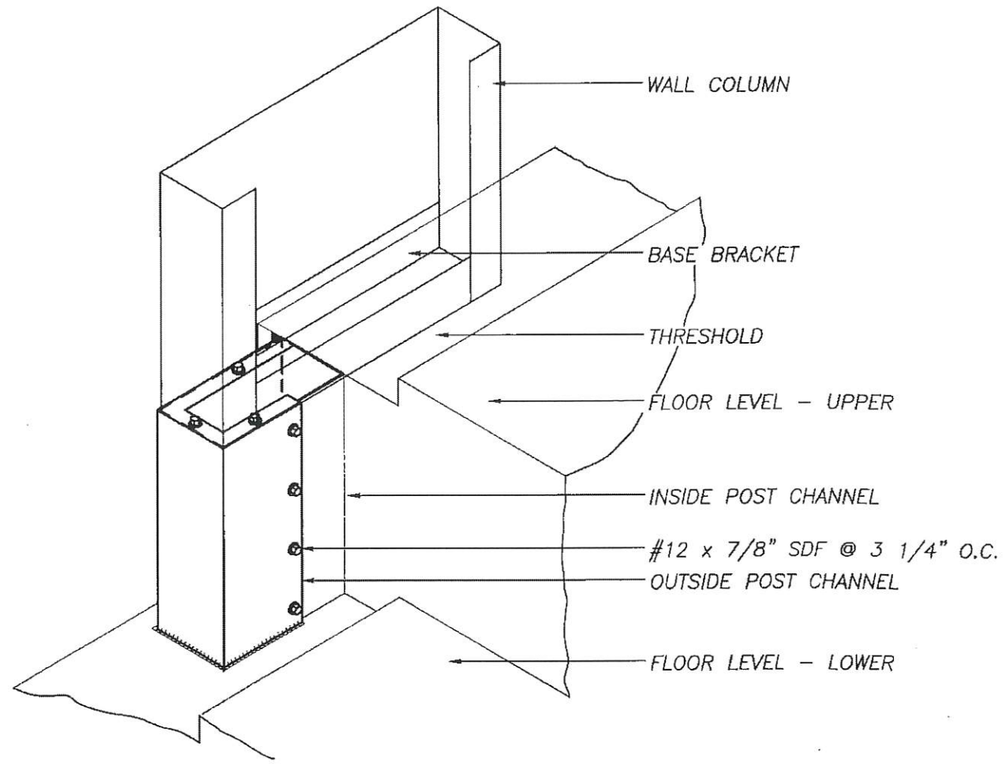
DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J Pope		ERC711X
SCALE: NTS	DATE: 6-29-94	



PLAN VIEW @ POST CHANNEL

NOTE: POST CHANNEL CAN BE ATTACHED TO EXTERIOR WALL COLUMN AFTER FITTING POST CHANNEL TO CONCRETE AND BEFORE WALL COLUMN IS BOLTED INTO PLACE TO LESSEN THE DIFFICULTY OF INSTALLING #12 SCREWS.

NOTE: SCRIBE OUTSIDE POST CHANNEL (9" LEG) TO FIT AGAINST CONCRETE. THEN APPLY CAULK OVER SEAM TO SEAL CUT EDGES. TRIM BOTTOM AS NEEDED. CAULK AROUND BOTTOM TO SEAL CUT EDGE. FASTEN W/(4) PREPAINTED #14 X 7/8" SDF SCREWS @ 3 1/4" O.C. ON OUTSIDE FACE OF OUTSIDE POST CHANNEL. FASTEN OUTSIDE POST CHANNEL TO WALL COLUMN W/ (3) #12 X 7/8" S.D.F.



POST CHANNEL DETAIL AT FLOOR STEP

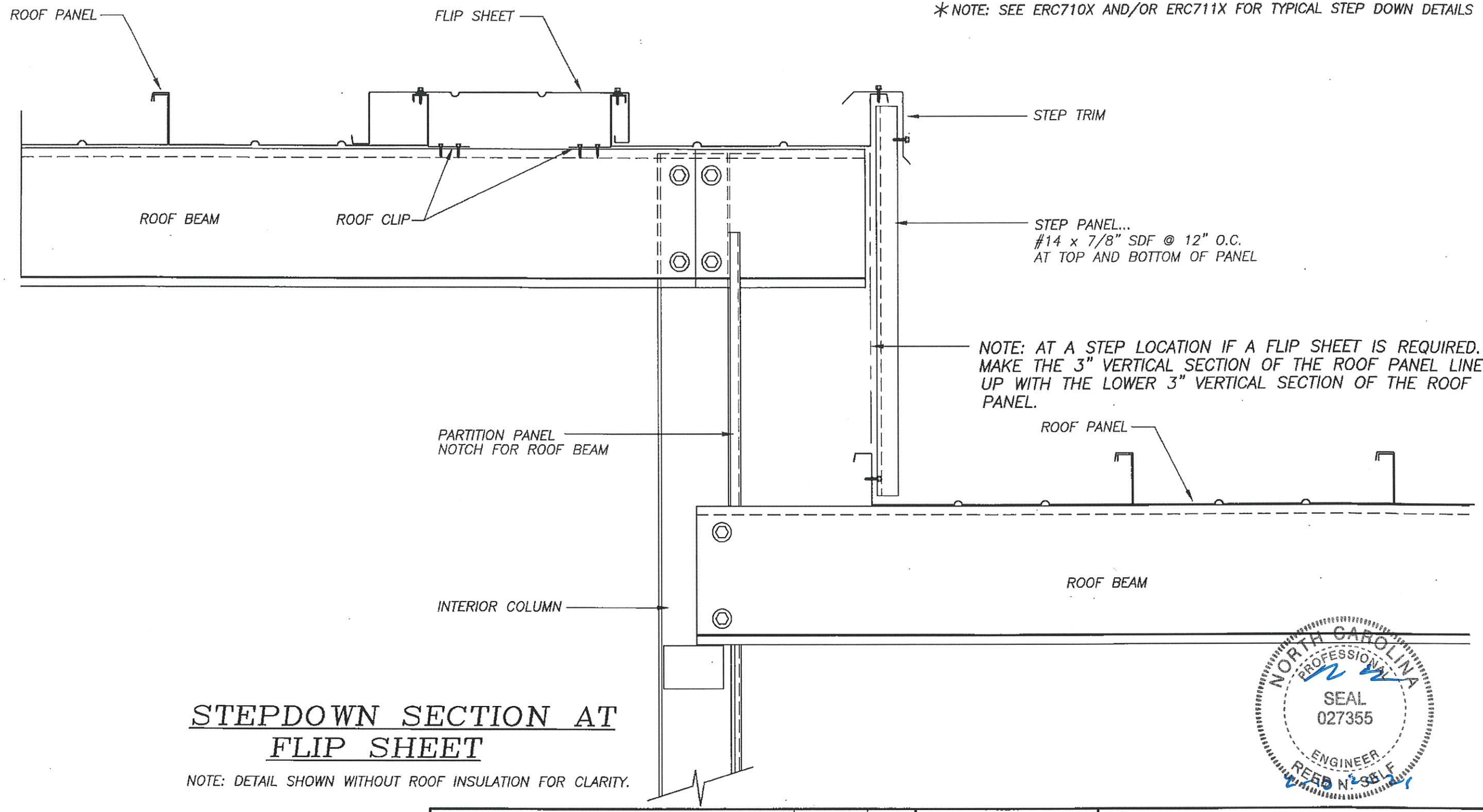
NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. SELPH
5-10-22

2 REVISED FASTENER SIZE	1/15/03	JCM
1 GENERAL REVISIONS	3-8-99	FOX
REVISIONS	DATE	BY

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE: Post Channel Details

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
J Pope		ERC712X
SCALE: NTS	DATE: 6-28-94	



STEPDOWN SECTION AT FLIP SHEET

NOTE: DETAIL SHOWN WITHOUT ROOF INSULATION FOR CLARITY.

NORTH CAROLINA PROFESSIONAL SEAL 027355 ENGINEER REED N. [illegible]

REVISIONS	DATE	BY

BETCO
228 COMMERCE BLVD.
STATESVILLE, NC 28625
(800)654-7813

SHEET TITLE: STEPDOWN SECTION AT ROOF FLIP SHEET

DRAWN BY:	APPROVED BY:	DRAWING NUMBER:
JENKINS		ERC713X
SCALE: NTS	DATE: 10-10-01	